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U. S. DEPARTMENT OF AGRICULTURE

C. R. Decker

PEACE ON EARTH  
★ GOD WITH US ★  
TOWARD MEN

# CLEANING IN BEE CULTURE

DEVOTED  
TO  
BEEKEEPING

& HOME INTERESTS.

MEDINA, OHIO  
BY  
A. I. ROOT

TERMS, ONE DOLLAR PER YEAR.

ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.



## Cash for Beeswax!

Will pay 20¢ per lb. cash, or 23¢ in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 25¢ per lb., or 28¢ for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

## THE A B C OF BEE CULTURE.

32D THOUSAND NOW READY.

AVERAGE SALE, 200 PER MONTH.

In ordering please state distinctly whether you want cloth or paper binding.

Single copies, cloth bound, postpaid by mail, \$1.25; same as above, only paper covers, \$1.00. From the above prices there can be no deviation to any one; but each purchaser, after he has paid full retail price for one book, may order the cloth-bound to any of his friends on payment of \$1.00, or the paper cover at 75 cents each. This discount we give to pay you for showing the book, explaining its worth, etc. If you order them by express or freight, you may take off 15 cts. from each cloth-bound book, or 12 cts. for each one in paper covers. Of course, it will not pay to do this unless you order a number at a time, or order them with other goods. To those who advertise A B C books in their price lists and circulars, a discount of 40 per cent from retail prices will be made, and this discount will be given to all booksellers and newsdealers. To any one who purchases 100 at one time, a still further discount will be made, to be given on application, and the 100 may be made up of part cloth and part paper, if desired. Purchasers are requested not to sell single books at less than the regular retail prices, although they may sell two or more at any price they think proper; or the A B C may be clubbed with any other book or periodical, at such prices as the agent thinks proper.

Cook's Manual in cloth at the same price as above.

A. I. ROOT, Medina, O.

T. B. TERRY'S NEW BOOK.

## THE WINTER CARE OF HORSES AND CATTLE.

THE MOST HUMANE AND PROFITABLE TREATMENT.

Although the book is mainly in regard to the winter care of horses and cattle, it touches on almost every thing connected with successful farming—shelter, comfort, feeding, exercise, kindness, different sorts of feed, with a full treatise on the most economical way of saving manure. A full description of Terry's model barn is also given.

Price 40 cts.; by mail, 43 cts.

A. I. ROOT, Medina, O.

## 4 H.-P. ENGINE FOR SALE.

A Bargain for the man who is in need of a First-Class Engine and Boiler.

This is one of B. W. Payne & Son's Eureka engines, the same that we advertise in our catalogue. It has run 3 months since it was new; has had a 10-foot galvanized-iron smoke-stack added, and is in perfect running order. The man who is holding it had to put in a larger one to meet the demands of his trade. The price of a new engine and boiler complete, no stack, is \$275.00; but to make a quick sale we will sell this one with the stack for \$200.00, free on board cars at Higginsville, Mo.

A. I. ROOT, Medina, Ohio.

## The ABC of POTATO + CULTURE.

HOW TO GROW THEM IN THE LARGEST QUANTITY, AND OF THE FINEST QUALITY, WITH THE LEAST EXPENDITURE OF TIME AND LABOR.

Carefully Considering all the Latest Improvements in this Branch of Agriculture up to the Present Date.

ILLUSTRATED BY TWENTY ENGRAVINGS.

Written by T. B. TERRY, of Hudson, O.

Table of Contents: Soils, and their Preparation.—Manures, and their Application.—When, and How Far Apart Shall we Plant?—Shall we Plant Deep or Shallow?—Shall we Plant in Hills or Drills?—How to Make the Drills, and Fill Them.—Selection and Care of Seed.—Cutting Seed to One Eye.—Planting Potatoes by Machinery.—Harrowing after Planting.—Cultivating and Hoeing.—Handling the Bugs.—The Use of Bushel Boxes.—A Top Box for the Wagon.—Digging.—Storing.—What Varieties shall we Raise?—Potato-growing as a Specialty.—Best Rotation where Potatoes are made a Special Crop.—Cost of Production, and Profits.

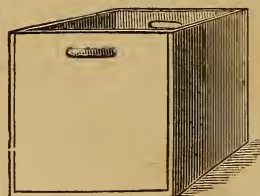
Besides the above, we have recently added an appendix of 8 pages, bringing the book up to the present date, and containing an account of all the improvements made during the past two years.

Price 35 cts.; by mail, 38 cts.

A. I. ROOT, Medina, Ohio.

## POTATO-BOXES

(TERRY'S).



These are made of basswood, bound with galvanized iron. The galvanized iron gives strength, and the basswood strength and lightness. These hold exactly a bushel when level full, and may be piled one on top of another. Although they are made especially for potatoes, they can be used for fruit, vegetables, picking up stones on the farm, and a thousand other purposes. When piled one above the other, they protect the contents from the sun and rain; and from their shape a great many more bushels can be set into a wagon than where baskets are used. They are also much more substantial than baskets.

Price 25 c each; 10, \$2.25; 100, \$20.00. In the flat, including nails and galvanized iron, \$1.75 for 10; 100, \$16.50; 1000, \$150.

A. I. ROOT, Medina, O.



You can not look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me, what a bother—I must have last month's Journal and it is nowhere to be found"? Put each No. in the Emerson Binder as soon as it comes, and you can sit down happy, any time you wish to find anything you may have previously seen, even though it were months ago.

Binders for GLEANINGS (will hold them for one year), gilt lettered, for 60 cts.; by mail, 12 cts. extra. Ten, \$5.00; 100, \$45.00. Table of prices of Binders for any Periodical, mailed on application. Send in your orders.

A. I. ROOT, Medina, Ohio.

The Canadian P. O. authorities refuse to receive these through the mails, as they exceed the proper weight for merchandise.

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## KIND WORDS FROM OUR CUSTOMERS.

## PAID FOR ITSELF THE FIRST DAY.

The goods you sent us are here, and give entire satisfaction. The machine for fastening fdn. in sections is a fine thing, and paid for itself the first day used. We should not want to do without it.

Mazo Manie, Wis.

W. A. JOHNSON &amp; BRO.

## ONE WHO LIKES THE CLARK SMOKER.

Clark's smoker is the most perfect of all smokers I ever saw; is the easiest handled, and gives the strongest draft of all smokers. I would not do without it for the price of five smokers. I have been keeping bees for the past nine years, and have decided that tobacco smoke is injurious, both to bees and myself. Often, after taking honey from the hive, I notice that many bees become sick and die, caused by strong tobacco smoke, and I have often been sick myself from smoking.

Manilla, Ind., Apr. 30, 1887.

G. E. HAWKINS.

## THE HOME TALKS EXERCISING AN INFLUENCE.

I should like to tell you in what esteem your Home Papers and neighborly talks are held. If there were nothing in GLEANINGS but Our Homes I should take it for the influence your talks have with me. I feel that the principles of your talks are permeating my life, and I know that my conduct with my fellow-men is favorably influenced by the ideas advanced in your familiar home-like talks. Our Homes in Mar. 15, especially, touched a tender spot in my heart, for it is now but a year since I parted with a dear and only brother, the loss of whom I could not for a long time become reconciled to. But I wish from experience to corroborate your talk and consolation to the friend referred to.

For some time after my bereavement this prayer was almost continually in my mind:

My God, my Father, while I stray  
Far from my home, on life's rough way,  
Oh teach me from my heart to say,  
Thy will be done.

Next came the hymn beginning,

Jesus, lover of my soul,  
Let me to thy bosom fly.

I can truly say, that in Christ alone is consolation and help in these times of trouble. I believe these afflictions are ordained to wean us from the world; for as one by one we lose our dear friends, those whom we are living and working for, we of necessity transfer our affections from earth to heaven; for it is written, that "where the treasure is there will the heart be also." I hope you may be spared many years to point the straight and narrow way that leads to life.

C. W. COSTELLO.

Waterboro, Maine, Apr. 24, 1887.

## GLEANINGS AS AN ADVERTISING MEDIUM.

Eighty-six tested queens have been mailed. All were heard from but five. There has been no loss this spring. Accept our thanks for the adv't. It will bring the hundred dollars. Next year, God permitting, 200 queens will be ready in April, for \$1.00 each.

J. W. K. SHAW &amp; CO.

Loreauville, Iberia Par., La., May 2, 1887.

## MORAL PATENTS.

The following very kind letter from Norman Clark, the inventor of the smoker bearing his name, is at hand, and we here give it to our readers:

Friend Root:—Last evening our pastor's subject was "The kingliness of kindness," and he closed something like this: In earlier days, there were men who roved the world over to find that which would give perpetual youth. In these latter days many find it, and it is those who have Christian charity, who have sympathy for all; who love their neighbors as themselves.

Thanking you again for being so thoughtful of me, I remain very truly yours,  
NORMAN CLARK.

Sterling, Ill., Apr. 25, 1887.

Attached to the letter is a receipt. It reads, "Received of A. I. Root one hundred dollars, a gratuity on smokers, and for which I thank you."

NORMAN CLARK.

## YES, I WILL

Devote my time exclusively to rearing pure Italian queens. If you know my strain, send me your orders; if not, send me a stamp for samples of live workers. Untested queens, \$1.00 each; \$9.00 per dozen. Tested queens, \$1.50 each; \$15.00 per dozen.

tfdb

THOMAS HORN,

Box 691, Sherburne, N. Y.

**H**YBRIDS in 10-frame S. hive, with hybrid queen, only \$3.50 per full colony. Italians in 10-frame S. hive, with tested queen, \$7.00 per full colony. Satisfaction and safe arrival guaranteed. Ready now. J. B. WHITLOCK, Eufaula, Ala.

## FULL COLONIES of ITALIAN BEES

and Queens for Sale.

10 L. frames of bees, queen, brood, and honey, all for \$5.00. Tested queens, \$1.25 each.

10-12d

A. G. BRUSH, Susquehanna, Pa.

## QUEENS.

Ark. or big brown, and pure Italians mated with brown drones, 20 to 60 cents each; ready now and through swarming season.

10tfdb

SALLIE MORROW, Wallaceburg, Ark.

## A Barometer for Gardeners and Farmers.

WE have finally succeeded in getting a wonderfully pretty little aneroid barometer that we can sell as low as \$2.50. One of them has been carefully tested by the side of our mercurial barometer, and it follows the rising and falling of the mercury with wonderful accuracy. It seems to me that these little instruments ought to pay for themselves over and over again for any farmer or gardener, or any person who is dependent on the vicissitudes of the weather. The instrument much resembles a pretty little clock, and it may be sent by mail safely for 10 cts. extra for postage. You will remember that my method of using any barometer is to pay little or no attention to where the indicator or mercury stands. When you wish to know what the weather will be, tap the instrument with the end of your finger. If the indicator (or mercury) falls, there is a prospect of rain; if it rises, you are pretty safe in deciding there will be no rain very soon. If a considerable storm is approaching, the mercury will keep falling for some hours, and it will drop a little every time you touch it, even though you tap it as often as once an hour. When it keeps dropping for several hours, look out for a storm or a big wind. If it keeps rising for several hours, go on with your work and you will very seldom be misled.

A. I. ROOT, Medina, O.



## BEES CHEAP!

I have had charge of A. I. Root's apiary for three years. I intend to start an apiary five miles from town; will sell full colonies and nuclei cheap. Fine queens a specialty. For particulars, address

6tdfb **Wm. P. KIMBER,**  
**Medina Co. Medina, Ohio.**

**FOR SALE.—BEES,** good colonies in shipping-cases, with 9 Langstroth frames. Italians, \$4.50; hybrids, \$4.00; delivered at R. R. station any time after May 1. MISS MABEL FENN,  
7tfdb Tallmadge, Ohio.

## BROOD FDN. FOR L. FRAMES,

Six to seven feet to the lb., in lots of 25 lbs. and upward, for 35 cts per lb.

**JAMES McNEILL, (10tfdb) HUDSON, N. Y.**

**THE 100,000 sections,** advertised in last month's GLEANINGS, is sold. We are cutting on 100,000 more. All persons in want of sections, V-groove, 1 piece, should write for sample and prices at once.  
10d Address J. B. MURRAY, Ada, Ohio.

## FINE RUBBER PRINTING-STAMPS FOR BEE-KEEPERS, Etc.

Send for catalogue. **G. W. BERCAW,**  
9-10-11-13-14-15d **Fostoria, Ohio.**

## ARMSTRONG'S NEW REVERSIBLE HIVE.

The cheapest, simplest, and most practical hive ever offered to the public. H. D. Cutting, of Clinton, Mich., says: "Let me congratulate you on having such a good hive. Your reversible-section case is perfection itself." Sample hive complete, with paint, \$2.50. Send your name and address, plainly written on a postal card, and receive our 32-page illustrated catalogue free. Address

512db **E. S. ARMSTRONG, Jerseyville, Ills.**

## 200 COLONIES OF Choice Italian & Albino Bees

**FOR SALE AT GREATLY REDUCED PRICES.**

Also a full line of Bee-keepers' Supplies. **COMB FOUNDATION** from choice select yellow beeswax a specialty, at very low rates, both wholesale and retail.

Do not fail to send for my 27th Annual Catalogue before purchasing.

3tfdb Address **WM. W. CARY,**  
**COLERAINE, MASS.**

Mention this paper when writing.

## FOR SALE CHEAP.

Owing to different arrangement of machinery in our new building we have for sale at half their cost the following:

Three 18-in. adjustable drop-hangers for a 2 15-16 in. shaft. Cost \$10.00 each; will sell for \$5.00.

Six 18-in. adjustable drop-hangers for a 2 7-16-in. shaft. Cost \$10.00 each; will sell for \$5.00.

Eight 30-in. iron pulleys, 10-in. face, for a 2 7-16-in. shaft. Cost \$8.00 each; will sell for \$4.00.

These are just as good as new, and a bargain to the man who needs them.

**A. I. ROOT, Medina, O.**

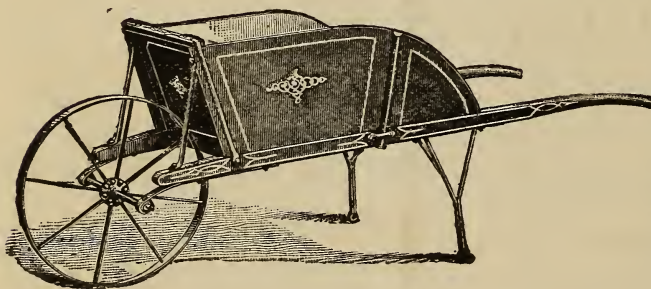
## FOUL BROOD, NO!!

I never had a case nor saw one, but I have seen and had hundreds of good queens, and will sell you one of them for 65 cts., or 5 for \$3.00. 26 B. Leghorn eggs for \$1.00. Orders for queens booked now, and for eggs, filled now. Catalogue for stamp.

248d **C. M. GOODSPEED, THORN HILL, N. Y.**

## ❖ A \* WHEELBARROW \* FOR \* BEE - KEEPERS. ❖

ALSO A WHEELBARROW FOR WOMEN, CHILDREN, AND  
PEOPLE WHO ARE NOT VERY STOUT.



OUR 35-POUND WHEELBARROW, CAPABLE OF CARRYING 500 POUNDS.

them at their convenience, when times were dull. Well, friends, the wheelbarrows are here, and they are a surprise to everybody. We show you a picture above. We have two sizes—the smaller one weighing only 35 lbs., and yet it will carry 500 lbs. safely, and it can be packed so closely together for shipment that you can take the whole thing under your arm and walk off easily. The wheel has flat spokes instead of round. The different pieces are all cut and forged by means of dies. The legs are steel, so they will neither break nor bend, even if you bump them on the sidewalk. The springs are oil-tempered, with adjustable bearings, so you can tighten them up for wear. More than all, the wheelbarrows are the nicest job of painting and varnishing, I believe, I ever saw, for a farm implement. They are handsome enough to go around town with, and strong enough to do heavy work; and yet the price of the small size is only \$4.00, the same as our iron wheelbarrow. The larger size is \$4.50. The only discount that can be made is 5 per cent off for two; 10 per cent off for five, or 15 per cent off for ten or more. They can be sent either by freight or express. It is only five minutes' work to put one together.

**A. I. ROOT, Medina, Ohio.**

# E. M. HAYHURST'S FINE ITALIANS.

## \$4.50 TO \$5.50 PER COLONY.

On account of ill health I have decided to sell my **Queen-Yard** this season, at the following prices: One full colony, \$5.50; two or more, \$5.00 each. These bees are in one-story, ten-comb Langstroth hives; have fine young tested queens, and a good amount of brood and bees, with honey for the trip; are perfectly healthy, no *foul brood* in my yard or neighborhood; they are extra fine stock, and first-class honey-gatherers. If wanted in rough shipping-box instead of hive, the price will be 50 cts. per colony less than above. Safe arrival guaranteed. Will begin shipping about May 1st.

8tfdb

P. O. Box 60.

E. M. HAYHURST, KANSAS CITY, Mo.

## DO NOT MISS THIS CHANCE TO GET ITALIAN QUEENS AND BEES

And **EGGS FOR HATCHING** from seven varieties of **High-Class Poultry**. Choice breeding stock, and prices low. Send for Circular and Price List. **CHAS. D. DUVAL**,  
7tfdb Spencerville, Mont. Co., Md.

## 500 FRAMES OF BROOD

Two-thirds full, well covered with bees (Italian), no queen, in two-frame nucleus hives; just the thing for queen-rearing, \$1 each frame, after June 1st. Twenty last-years' tested Italian queens, \$2 each.  
8-9-10db M. ISBELL, Norwich, N. Y.

## ITALIAN QUEENS.

Reared from select mothers. Untested, \$1.00; Tested, \$2.00. **H. G. FRAME**,  
5-16db North Manchester, Ind.

## Italian Bees and Queens, IN MAY AT JUNE PRICES.

Full colonies \$6.00 (Simp. wired frames, combs built on fdn.). Bees per lb., 90 cts.; ½ lb., 50 cts. Frame of brood and bees, 75 cts. Tested queens, \$1.50. Untested, \$1.00. Queens reared from imported mother. **MISS A. M. TAYLOR**,  
9tfdb Box 77, Mulberry Grove, Bond Co., Ill.

# DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Haddon, Dowagiac, Mich.; Dougherty & Wiley, Indianapolis, Ind.; B. J. Miller & Co., Nappanee, Ind.; Chas. H. Green, Berlin, Wis.; Smith & Goodell, Rock Falls, Ill.; Ezra Baer, Dixon, Lee Co., Ill.; E. S. Armstrong, Jerseyville, Illinois; Arthur Todd, 2122 North Front Street, Phil'a, Pa.; E. Kretschmer, Coburg, Iowa; P. L. Viallon, Bayou Goula, La.; M. J. Dickason, Hiawatha, Kansas; J. W. Porter, Charlottesville, Albemarle Co., Va.; E. R. Newcomb, Pleasant Valley, Dutchess Co., N. Y.; D. A. Fuller, Cherry Valley, Ill.; J. B. Mason & Sons, Mechanic Falls, Maine; G. L. Tinker, New Philadelphia, O.; Jos. Nysewander, Des Moines, Ia.; Aspinwall & Treadwell, Barrytown, N. Y.; Barton, Forsgard & Barnes, Waco, McLennan Co., Texas; W. E. Clark, Oriskany, N. Y.; G. B. Lewis & Co., Watertown, Wis.; E. F. Smith, Smyrna, N. Y.; J. Mattoon, and W. J. Stratton, Atwater, O.; Oliver Foster, Mt. Vernon, Iowa, and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. We guarantee every inch of our foundation equal to sample in every respect.

**CHAS. DADANT & SON**,  
3btfdb Hamilton, Hancock Co., Illinois.

## Holy-Land Bees and Queens, Cheap.

Full Colonies, Nuclei, and Queens.

SEND FOR CIRCULAR.

**GEO. D. RAUDENBUSH**, - READING, PA.  
8-10db

## For Sale. Full Colonies of Italian Bees, 2, 3, and 4 Frame Nuclei.

Tested queens before June 1st, \$1.50 each; after, \$1.25 each. Untested, before June 15th, \$1.00 each. After that date, single queen, 75 cts.; six for \$4; twelve for \$7.75. Pounds of bees, same price as untested queen.  
7tfdb

I. R. GOOD, Nappanee, Ind.

## SECTIONS.

Nice white poplar, 4-piece all dovetailed, 4¼x4¼ sections. Send for prices.  
9-12db

S. D. BUELL, Union City, Mich.

## LOOK AT THIS!

My improved Smoker can be taken apart to clean it by turning a button. Lay the tube on the coals and let it burn out. The valve will come off in the same way to clean. Send \$1.00 for a Smoker and see how well you will like it. I will please you or return your money. I have tested it all of last season in my apiary of 79 hives, and it gave perfect satisfaction. If wanted by mail, add 25 cts. to pay postage. Address **W. H. SMITH**,  
9-16b BROOKTON, TOMPKINS CO., N. Y.

IF YOU ARE WANTING

**ITALIAN, HYBRID, or GERMAN BROWN BEES,**  
Simplicity Hives, or Section Boxes.

Send 2-Cent Stamp for Circular to

6tfdb

THOMAS GEDYE,

Box 653.

La Salle, La Salle Co., Ill.

## 700 LBS. BEES

I will sell these at \$1.25 per lb. Also untested Italian queens, bred from imported mother, to go with bees, at \$1.25 each. Cash must accompany orders. Ref., 1st Nat. Bank here.  
7-10db

E. Burke, Vincennes, Ind.

## FOR ITALIAN QUEENS and CHEAP

611db Address W. P. Davis, Goodman, N. C.

## COMB FOUNDATION.

Dunham Brood Fdn., 40c. per lb.; extra thin Vandervort Fdn., 45c. per lb. Wax made into fdn. for 10 and 20c. per lb.

## SAMPLES FREE.

3-tfbd.

F. W. HOLMES, Coopersville, Mich.



## HONEY COLUMN.

### CITY MARKETS.

**NEW YORK.**—*Honey.*—The sales of comb honey the past two months exceed largely sales of corresponding time last year. The large stock in dealers' hands is becoming less every day, and the present outlook is, that all the best grades will be closed out before the new crop arrives. There is quite a large stock of dark and off grades of white, which we apprehend will be carried over. Prices are ruling low. We quote as follows.

White comb honey	9@12
Dark " "	5@7
Cal. " "	8@9
California extracted	5@6

*Beeswax.*—23@24½.

We beg to inform bee-keepers through your valuable journal of the removal of our place of business as below, where we have better facilities for handling honey, and respectfully invite all beekeepers visiting our city to give us a call. Yours truly,

MCCAUL & HILDRETH BROS.

May 10. 28 and 30 West Broadway, near Duane St.

**MILWAUKEE.**—*Honey.*—The demand continues very good for honey in this market, and values remain unchanged on all grades below the very finest, and we will now quote market firm.

Finest white 1-lb. sections	12@12½
Choice " 1-lb. "	11@12
" " 2-lb. "	10@11

Dark not wanted, and imperfect slow.

Extracted, finest, white kegs	6½@7
" white, good, kegs or bbl.	6@6½
" dark " " " "	4@4½

*Beeswax.*—25c.

A. V. BISHOP,  
142 W. Water St.

May 4, 1887.

**DETROIT.**—*Honey.*—There has been more inquiry for comb honey of late, and the stocks of honey on hand will be nearly all disposed of before the new crop. Best comb honey, 11@12 in 1-lb. sections.

*Beeswax.* 23@24c.

M. H. HUNT,  
Bell Branch, Mich.

May 12, 1887.

**CLEVELAND.**—*Honey.*—The market is clearing up nicely in honey, with prices unchanged. Best white 1-lb. sections, 12@13. Second, quality 10@12. Buckwheat dull at 8@9. Extracted, 5@6.

*Beeswax.*—25c.

A. C. KENDEL,  
115 Ontario St., Cleveland, O.

May 10, 1887.

**NEW YORK.**—*Honey.*—We report market dull. There is a limited demand for buckwheat comb honey; and if it continues the market will soon be bare of all comb honey. We quote:

Buckwheat and dark, 1-lb. 6@7; 2-lb. 5@5½.

We advance price on California extracted, and now quote 5½ in jobbing lots.

May 11, 1887. THURBER, WHYLAND & Co.,  
New York.

**PHILADELPHIA.**—*Honey.*—Honey nominal, and same as last reported.

*Beeswax.* steady. Choice yellow, 22@23; dark, 20; white, 27.

May 10, 1887. PANCOAST & GRIFFITHS,  
242 South Front St., Phila.

**BOSTON.**—*Honey.*—1-lb. best, 14; 2 lb. best, 12; extracted, 5@7.

*Beeswax.* 24c.

BLAKE & RIPLEY,  
57 Chatham St., Boston.

May 10, 1887.

**CHICAGO.**—*Honey.*—Honey is selling slowly with the best white 1-lb. sections bringing 12c in a small way. 2-lb. about 8c; and dark 7c. The offerings are not as large by half as last month, and it looks as though the crop was mostly in sight. Extracted honey, 4@6.

*Beeswax.* 25 for yellow.

R. A. BURNETT,  
161 South Water St., Chicago, Ill.

May 10, 1887.

I have a barrel of nice well-ripened candied honey, medium light in color. I think it is principally white clover, as we have so much growing all around here. I will take 8 cts. per lb. for the honey of any one who will take all of it, and I will put it on the cars at our nearest station, purchaser to pay the charges after it is put on the cars.

MRS. H. F. BARGER,

Border Plains, Webster, Co., Ia.

## ESSAYS

### On the Production of Comb Honey

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#### A CASE OF HIBERNATION.

AN IDEAL CELLAR FOR WINTERING BEES, AND HOW IT HAS WORKED FOR THE PAST THREE YEARS.

**A** YOUNG man, resident about 50 miles from here, whose apiary I visited the other day, has, I think, solved the hibernation problem, so far as cellar wintering is concerned.

He has been quietly studying apiculture for some years past, and three years ago last fall he built a cellar for bees on the most approved principles he could gather from the experience of the best bee-keepers, as recorded in the bee-journals. The result is, that he has wintered his bees for three successive winters, practically without loss. When I visited him the other day he had about half his colonies set out on their summer stands, and we looked most of them over. They were in fine condition, some of them were overflowing with bees. One colony, on four frames, which he did not expect to survive, were in good shape, and, in his judgment, were stronger than when set away in the fall.

There were about 250 colonies in the cellar, all told. With half of them removed, the thermometer stood at 52°; it had ranged from 52 to 58° all winter. Yet at this high temperature the bees maintained perfect quietude. Not more than five pounds of honey per colony had been consumed, on the average.

I call this a case of hibernation, from the stillness that reigned in the cellar, the small amount of stores consumed, and, I may add, the fewness of the dead bees to be seen on the cellar floor, which had not been swept at the time of my inspection. I am sure that, had the bees been very active, and

exposed to a lower temperature, they would have consumed far more honey, and there would have been a larger number of dead ones on the cellar floor.

All who read this will want a description of the cellar which has proved such a suitable winter home for these bees. It is about 18x20 in size, walls 10 feet high, and built of stone. A railway runs through the farm on which this apiary is kept, and from a deep cutting there is a sub-earth air-duct, 200 feet in length, made of 10-inch drain-tile, which supplies fresh air at the temperature of the earth away below frost. A pipe for the escape of foul air runs up from about the middle of the cellar, and is connected by an elbow with the kitchen cooking-stove. The bottom of this pipe spreads out into a flange 3 feet in diameter, and is supported on 4 bricks set edgewise. There is a wooden pipe on each side of the cellar for the escape of hot air. These are set in the wall, about 7 feet from the floor. The escape is through a six-inch hole cut in the horizontal top of each pipe. Outside there is an elbow, and the end projects a couple of feet above ground. Through one of these pipes, which was open at the cellar end, there was a perceptible current of warm air at the time of my visit. Several times, during mild spells in winter, these pipes had been used to prevent the inside temperature becoming too high.

Evidently, this cellar worked like one huge hive. Factory-cotton quilts only, covered the bees. The cellar is a very dry one, the earth on the floor being in a state of dust, and the dead bees, what few there were, dried up, their bodies making an audible crackle when you crushed them with the foot. There was no cellary smell perceptible. The air was as fresh and sweet as could be desired.

If I had the conditions of outdoor wintering as clearly demonstrated as they are for cellar wintering, I should rejoice. But there are still some points that are dubious to my mind. These, however, I will reserve for discussion some other time.

WM. F. CLARKE.

Guelph, Ont., Can., May 2, 1887.

Very good, friend C. The only difficulty in the way of a perfect understanding in the matter of hibernation is the definition of terms. It does not seem as if we ought to call the case mentioned above, strictly hibernation. The Indian story, however, on page 343, I suppose might be called hibernation and nothing else, for the bees were, in that case, stiffened by cold until they were apparently lifeless. They were then put into the cave and kept in this stiffened, motionless condition through many months of winter, to be waked up again when the flowers bloomed. We are glad to get the good report in regard to sub-earth ventilation.

#### UNSEALED CELLS IN SECTIONS.

IS W. F. CLARKE'S BEE-STING THEORY OF THE NEW USE OF A STING SUPPORTED BY FACTS?

**I**N reply to friend Doolittle (GLEANINGS, p. 123), if honey is always cared for as he directs, it may be just as well to have some cells left unsealed in sections, *providing* the honey has the same care afterward. But after he has ripened these unsealed cells till there is no danger of their running, if those sections are left in a store or in some purchaser's pantry, will not these unsealed cells attract moisture much more rapidly than the sealed ones? I think I feel safer to have all unsealed cells emptied.

#### USING PARTLY FILLED SECTIONS.

In this connection I want to caution the inexperienced against following to too great an extent the advice of Mr. Frank A. Eaton, GLEANINGS, page 131. A year ago I think I would have given just the same advice. In fact, in my book, "A Year Among the Bees," I speak of saving partly filled sections to use again. I have made considerable use of them, and I think generally to good advantage; but after last year's experience I shall not use them again unless it be a single one in a super. I had quite a number of sections partly filled, left over, and among them were some containing candied honey. These sections were filled, as friend Eaton suggests, very promptly, and when taken off I thought I had done a nice thing; but very soon they began leaking through the sealing, although kept in a good place, and none that commenced leaking could be sold as first-class honey. Contrary to friend Eaton's experience, and I think to my own previous experience, the honey in some of these sections was candied. This year I shall put on many sections that were partly filled, but the honey was all extracted last fall. I formerly put these partly built sections in the outer rows of the super, but further experience makes me prefer to put them in the center.

#### THE STING-TROWEL THEORY.

Not long ago I saw an item in a newspaper to the effect that "Naturalist Clarke" had discovered that the sting of the bee is used as a trowel, etc. This was stated in all seriousness; and if it is to pass

into general currency as a fact, and if it is not a fact, the sooner it is contradicted the better. When I first read the statement in friend Clarke's book I was somewhat startled, and didn't know whether to think there was some joke about it or whether a practice of the bees of thousands of years' continuance had just come to light. Just why the proof for any such belief has not been challenged before the communication of friend Savage (I think he is the first), I can not say. Possibly respect for the source whence it emanated. I hereby tender my apologies to friend Clarke for my silence hitherto, a silence of which I am by no means proud, as I do not know whether to attribute it more to cowardice or laziness. I don't believe there is any proof that bees ever work wax with their stings. On page 144 of GLEANINGS friend Clarke occupies about a page in reply to friend Savage's communication, yet I fail to find any thing in it to establish a belief that the sting is used as a trowel. If such a thing is true, has any one ever seen the operation? Surely many have watched bees in the operation of wax-working. During the honey harvest, bees are constantly working wax, and I have seen them at it many a time, but never with the sting. Thousands have probably seen the same thing, but I think no one has ever seen the sting used as a trowel. If they have, I think it has never appeared in print. This, it is true, is only negative proof against the theory; but in the absence of any positive proof on the other side, I think it counts for much.

In his article, friend Clarke makes use of Ernest's silence as so much testimony in favor of the sting-trowel theory. If Ernest has any shadow of proof of the truth of the theory, will he please let us have it? At any rate, will he please say whether he has or has not any evidence that bees work wax with their stings?

C. C. MILLER.

Marengo, Ill., May, 1887.

On page 20, in reply to D. F. Savage, after speaking of the mechanical structure of the sting, I said, "As to the office of the sting curing honey or capping the cells, I have nothing to say, either pro or con." Friend M., this was, in fact, all I could say. I had never made any observations at the hive, to determine this question, aside from my microscopical observations, and was unable to find any literature bearing directly on the point. The only argument I can use in refutation of Clarke's theory of the bee-sting as a trowel is, that its mechanical construction (if my observations with the microscope are correct) would make it almost impossible. I once spent my whole vacation, of a week's time, in dissecting, studying, and mounting bee-stings. I used a Bausch & Lomb microscope, with American lenses. I had at my disposal not only all the necessary dissecting-tools, but a 1-inch,  $\frac{1}{2}$ -inch,  $\frac{1}{4}$ -inch,  $\frac{1}{8}$ -inch, and a  $\frac{1}{16}$ -inch objective, and I am prepared to say that the bee-sting is in no respect like a trowel; and by watching its pumping motion under the microscope I could discover nothing in the working of the muscles that would lead me to believe that a bee could use it as a trowel. There is, however, nothing in the construction of the sting that would preclude the bees from puncturing the cells; and those who have had experience with the "business end" of a bee would not say that this is impossible. If our read-



ers should so request it. I will, during the winter months or when I have more time, take the specimens which I mounted during that week's vacation, stand over our engraver, and have him reproduce them upon the block for print.

In addition to the above remarks by Ernest, I would say that I have watched bees for hours through the glass of an observatory hive, and I have seen them build the cells, fill them with honey, and cap them over, but I never saw any movement that would indicate that the bee was ever in the habit of using the sting at all, or to indicate that he remembered he had a sting, while engaged in the business of capping over newly gathered honey, and I have seen them put on the last finishing touch.

### A PLAN FOR MAKING ARTIFICIAL SWARMS.

ALSO SOMETHING ABOUT HOUSEHOLD CONVENIENCES.

**I**F Tom, Dick, and Harry (and two other fellows), all living in different places, would each give me a frame of black brood, covered with bees, could I unite them in an empty hive with a frame of Italian brood, with a capped queen-cell from my own hive, and thus form a good working colony?

I was just remarking, that I found it next to impossible to get honey now that tasted like that eaten twenty-five or thirty years ago on the old farm. Seeing the article about honey remaining in the hive to ripen giving it an improved flavor, suggests a possible explanation. Or is it because the honey eaten in those days was eaten while two little bare feet dangled under the table, while now I wear boots and walk with a cane, while one pair of hands that dished out that honey has rested under the snows of over twenty winters?

Relating to your suggestion about providing labor-saving machines for the housewife, let me say a word. Washing-machines are generally voted a nuisance. I had no faith in them. My mother-in-law tried an improved "Western Washer," of Jamestown, N. Y. When she used it a year she said it was a grand success. I then risked getting one for my wife. She also says it is a success. If you or your readers wish to try one of these machines, by all means get the number 3. It costs two dollars more, but it will wash bed-clothes. If we can find any thing to lighten poor tired women's work on washday, we should publish the good news. We also have an Empire clothes-wringer. They are double-g geared, and easily turned. There is continual complaint about this make of wringers getting out of order. It is the fault of the manipulator or washwoman. It is so easy to turn, that the operator will run sheets or table-cloths through on the same adjustment they use for towels and napkins, thus bursting out the rolls. By all means get the easy-running Empire make, then teach the girls how to use it. Now, do not think I am securing a free advertisement for any appliances. I am simply trying to encourage an effort to lighten and facilitate work. Instead of beating our eggs with a spoon we use a Dover egg-beater. Our butter is churned in about

twenty minutes with a Union churn from Tiffin, Ohio. The churn is worked with a crank. The operator can sit down and read GLEANINGS while making the cream fly for butter. Some years ago when I was a drug clerk I learned many useful things. I learned the value of Basilicon ointment (accented on the second syllable). It is good for burns, bruises, healing, boils, or sores of almost any kind. Once a lady had erysipelas on her arm. She used this, and the arm got well. Whether the ointment cured it or not, I could not say without further trial. It is good to keep in any house where there are children. It can be sold for about five cents an ounce. Perhaps it would help bee-stings. I never tried. It is not a quack medicine, but a recognized pharmaceutical preparation.

Pittsburgh, Pa., May, 1887. P. S. DILWORTH.

Friend D., your plan will work tiptop, even if you don't bother the "two other fellows" at all. In fact, it is almost identical with one of my favorite methods, as given in the A B C book. When you get those combs covered with bees, however, look sharp that you don't take the queen. The only safe way is to find the queen before you take this frame of brood and bees.—I think you have hit it exactly in your suggestions as to why the honey tastes different now from what it used to.—I am glad that you and your wife have found a washing-machine that pleases you. We have tried, I do not know how many; but Mrs. Root always votes them "too much machinery;" that is, sooner or later she decides it is more bother to get the thing out, get it ready, then wash it up and put it away than it takes to do the work with a good tub and one of our best stoneware washboards. Your suggestions in regard to the use of wringers would apply, I think, to the use of almost any of them.—I am glad to know that our neighboring town of Tiffin makes churns so good that they get away off to Pennsylvania.—Although I don't believe much in medicines, your Basilicon ointment may be excellent where such a thing is needed. The price is certainly in its favor; but I don't believe it will make a particle of difference with a bee-sting.

### HOW TO RAISE CORN.

PROF. COOK GIVES US SOME IMPORTANT SUGGESTIONS IN REGARD TO THE MATTER.

**I**T may seem a little presumptuous for a bee-journal to take up a subject of such magnitude, especially while there are so many papers devoted to the great staples. Well, there are several reasons why I asked Prof. Cook to give us his ideas on corn culture. In the first place, we are all of us interested in every thing that friend Cook writes, no matter whether it is bees, corn, or kitchens. Friend Terry has given us a book on potato culture that has interested both young and old. I think the following in regard to corn culture will be received much in the same way.

PROF. COOK'S METHOD OF RAISING CORN.

As per your request, I will detail the method that my brother and I use in raising our most important

field crop—our corn. First, we always plow sod ground for corn, and aim to have the same covered with barnyard manure the previous winter—the earlier the better. This is drawn direct from the barn, and evenly spread when drawn. This we think very important. Barnyard manure means good corn, good oats the next year, good wheat the following season, and usually good grass the next two years. We fit our ground in May as fast as we plow. Mr. Terry urges none too emphatically the importance of following the plow closely with the harrow. With our ground in good order—the soil being deep and mellow—we are ready to plant by May 20th. We do not believe we gain any thing by too early planting. Plants, like animals, rarely recover from a serious backset received just at the dawn of life.

We make sure the previous autumn that our best corn is selected for seed, and hung up in a dry warm room. Thus early cured and dried it rarely fails us, even though not fully matured and hardened when husked. Good seed is all-important.

We plant with a seed-drill, plugging up all the holes except the two outside ones. We thus plant four feet apart. It requires about twelve quarts of corn to the acre; but corn is cheap, and we regard it as most desirable that it should be planted thickly, for reasons yet to be stated.

Now let us see what we have gained in this: Instead of working hard all day with a hoe, and planting, say, two acres, or with a hand-planter and seeding three or four acres, we have worked not nearly so hard, and have from twenty to twenty-four acres all planted. We walk in drilling, and space every other row with the eye. With close attention and practice one becomes so skillful that he can row his corn so that the most fastidious would praise it. Soon after the corn comes up we commence to harrow, using a fine slanting-tooth harrow. This takes a wide sweep, and so mellow the ground and destroys the weeds that the corn is materially hastened in its growth. This harrowing does not cease with the appearance of the corn, but is continued till the latter is three or four inches high.

"But," says one, "what about tearing up the corn?"

Of course, some is torn up; but we planted so generously that there is plenty left. We thus kill the weeds right at the outset, and keep the ground in such fine order that the corn seems fairly to leap into the air. After the corn gets up four or five inches we then put in the wheel cultivator, going astride the rows, and never use a hoe at all. In this way we keep our corn free from weeds, and secure much better crops than of old when we used a hoe to plant and to weed. In this way we get a most excellent yield of this best field crop, with the minimum of labor. In August we sow rye in our cornfield. This makes very fine fall and spring pasture, and is no detriment to our land. Indeed, this crop enriches the soil, as we plow it under in April or May for oats.

If, now, we can cut and bundle our corn with a reaper, and thrash it with a machine, we shall have solved the whole question of raising corn with the least amount of labor.

This coming fall I shall convert about one-third of my corn crop into ensilage. I shall allow the corn to glaze, then cut it and let it lie to dry and wilt for a day or two, then cut it into inch pieces,

and run it into silos which are about 15 feet in each of their three dimensions. In filling I shall work slowly—put in one day, then wait one or two. This gives us excellent feed, and enables us to keep much more stock.

An acre of good corn will give about 15 or 20 tons of ensilage, three tons of which are surely equal to one ton of hay. Fifty pounds of this is a good daily ration. We thus see that, from an acre of corn made into ensilage, we can keep three cows for six months. In this way we can so stock up our farms that it will be easy to get that best fertilizer, barnyard manure, without paying out money, and, at the same time, secure the best returns from our farms. It is just as desirable to make two blades of grass do what one did before, as to cause two to grow where one did before.

A. J. COOK.

Agricultural College, Mich., May 5, 1887.

It is a little singular, friend Cook, that I have been doing almost the same thing you recommend, with corn, peas, and a good many other garden crops. On our clay soil we find more benefit from using phosphate with wheat, rye, oats, and other such grains, and most of our drills are made to sow phosphate with the grain. The best crops of peas we ever had were put in with a drill by stopping up the tubes not needed. The grain-drill does all the marking, furrowing, manuring, dropping the seed, and covering, and does it more perfectly than can be done by hand. So much pleased have I been in putting all kinds of seed in with the grain-drill, that neighbor H. and I have just purchased one of the best grain-drills together. I expect to put our sweet corn in with it this afternoon, May 10th. The smoothing-harrow in place of the cultivator is also my favorite method. With a cultivator it takes a man and a boy and one horse. With two-horse implements we dispense with the expense of the boy (send him off to school, for instance), and do two rows or more at once with simply a man to drive the team. Sweet corn is so uncertain that we put it in thick as we sow, and then chop it out with the hoe when it is beyond danger from cut-worms and other like enemies. Then we have the ground all occupied. The finest stand of spinach I ever saw was put in with the grain-drill; and where farmers have such an implement at hand I believe it would pay to sow all the garden stuff. Perhaps I should say *pretty much* all: for when it comes to lima beans and planting potatoes, the grain-drill will not answer exactly. I would, however, run the grain-drill over the garden spot, charged with phosphate, before planting the garden to any thing. If you want to set out cabbage, celery, or tomato plants, your phosphate is nicely scattered and mixed in with the soil, and your ground is beautifully marked out. In fact, I don't know of a marker that marks any nicer than the grain-drill. For beets, onions, etc., the marks are just about the right distance apart; but if it is too close, take every other mark, or every third or every fourth one. For carrots and parsnips, nothing can fix the ground any nicer. In regard to the economy of labor by your plan, it surely saves time over the old style of planting in hills, as done in the old way.



## A REVIEW OF HUTCHINSON'S BOOK.

FRIEND POPPLETON GIVES US SOME THOUGHTS  
ON THE PRODUCTION OF COMB HONEY.

**A**LTHOUGH it may not have been in accordance with the rules of authorship, I announced, in the conclusion of my little book, that "all will find me ever ready to explain and defend my views; or, if necessary, acknowledge my errors." Before "explaining and defending" the one or two points upon which we differ, I wish to heartily thank Mr. Taylor for his kind words, and for the very fair manner in which he reviewed my book. Instead of setting a box over the hive, and completely surrounding and covering the hive with sawdust, Mr. Taylor prefers, as being more convenient, good division-boards and chaff or sawdust in the super. This question of leaving one or two sides of a hive exposed was discussed at one of our conventions at East Saginaw, and quite a number thought that packing upon only three sides of a hive was but little better than none. "A chain is no stronger than its weakest link" was the sentiment expressed. Candidly, I think the comparison is not a fair one, for I do think that a colony protected upon three sides will bear the cold with less danger of loss than will one that has no protection. I think a fairer comparison would be that of leaving two sides of a house without siding or plastering, simply boarded up with one thickness of boards. Although my method of packing may be a little more costly and troublesome, I think the complete protection afforded will amply repay.

I agree with Mr. Taylor, that, as a rule, a queen is at her best during the two first years, and it is possible that it might be profitable to replace them at that age. With small brood-nests, however, the difference between old and young queens is not so noticeable. I doubt the advisability of killing two-year-old queens simply to avoid the construction of what little drone comb will be built as the result of their retention.

It does not seem to me that wooden triangular comb-guides, having their lower edges coated with wax, would possess any advantages, not even that of cheapness, over strips of foundation three or four cells in width; but I must admit, that I have given such guides no trial.

One pigeon-hole in my desk is jammed full of letters containing commendations and criticisms of my little book; and you have little idea how much pleasure it gives me to be able to say that not one of these letters contains any thing that has hurt my feelings, while I have been deeply touched at times to witness the exhibition of tact and kindness in making criticism. Of all these letters, the one that contains the most criticisms is from Mr. O. O. Poppleton, of Florida; but the criticisms are all so fair, and touch upon such important points, that I hope I may be excused for giving it in full. I have the permission of the writer to publish it.

*Friend Hutchinson:*—A copy of your work on "The Production of Comb Honey" is just received. Many thanks for the courtesy. As I judge your object in sending was to invite a friendly criticism, I proceed to give it briefly.

You start out (pages 9–13) with a very decided plea for spring protection. I am no believer in having a hobby, and for ever hammering at it; but if I ever did have one, it was this of spring protection; and there is nothing in your book which so thoroughly meets my entire approbation as does

this part. As long ago as 1881, at the Lexington Convention, I made the statement that, "in my opinion, chaff hives are worth all their extra cost, both in money and labor, if used for no other purpose than as spring protectives," and I reiterated the same in the essay on chaff hives of the next year's convention. I would no more think of trying to keep bees in the short changeable seasons of Northern Iowa or Michigan, without spring protection, than I would with movable-comb hives. This is one thing on which we fully and thoroughly agree, whether we do on any thing else or not.

On page 12 you say: "The saving of stores in cellar wintering will pay for the expense four times over." Aren't you a little careless or wild in this statement? Compared with unprotected outdoor wintering, you are correct; but, so far as my experience goes, the difference in the consumption of honey, between the cellar and a thoroughly well-packed colony out of doors, is too small to be considered. The only reliable statistics I have ever seen on this subject are those published by A. G. Hill, of the *Guide*. If I remember correctly, those tables cover several years' experiments, with an average of, say, 50 to 75 colonies each year; and the average difference between cellar and outdoor wintering is, I think, not far from one pound only. This agrees with my own experience. This, of course, applies only when hives are properly protected, not when the work is only half done. You also say, on the same page, "It is only by the cellar method that the wintering of bees can ever be reduced to a perfect system." This is certainly too sweeping an assertion for any one to make, for it requires just as perfect a system to successfully winter bees out of doors as in the cellar; and such a system is now in use. I will refer you to A. I. Root for an example, but could refer to others who are practically unknown. I do not think that yourself, or any one else who practices your general system of management, will, as a rule, be successful in outdoor wintering; but that is no proof that others in other localities, and with a different management, can not and do not have just as perfect a system of outdoor wintering as any one has of cellar wintering. While you have failed in outdoor wintering, I know of localities where none have succeeded in any other way.

I also take issue with your views regarding stimulative feeding and spreading of the brood, as given on page 14. I do not think that stimulative feeding can be made of value as far north as your locality is and mine was; at least, I tested it thoroughly and could obtain no advantage from it; but spreading of the brood has been of very great service to me. I attribute a large share of my long-continued success in honey-raising to the fact that I have practiced spreading the brood in connection with spring protection. In fact, the first can be successful only when the latter is practiced. Spreading the brood is undoubtedly much more valuable when one is working for extracted honey than when working for comb honey; and, as your work is devoted to the latter only, I do not, of course, differ so much from you as I should had your opinion covered bee-keeping generally instead of only one branch of it.

I can not agree with you, that separators are not a necessity (page 15). Of course, honey can be and has been raised successfully that could be readily crated, but that isn't all that is needed. Appearance is a prime factor in disposing of comb honey, and in that respect honey produced by the aid of separators has an undoubted advantage.

I prefer neither the one-piece nor the four-piece sections. I find that the two-piece, such as G. B. Lewis manufactures, to have the good but none of the bad points of either of the others.

I have never formed any very decided opinion on the main topic of your little book; i. e., so far as the production of comb honey is concerned; but I take a square and decided issue with you in the advice given on page 25, *not to give empty combs in the brood-nest when working for extracted honey*. The very conditions you describe as the result of hiving on empty combs are the exact ones we have aimed at trying to attain; viz., to have the bees drop brood-rearing, and attend to honey-gathering during the short sharp flows of honey we are apt to have in the extreme North. This is the point which Mr. Doolittle, myself, and others have insisted on when discussing the superiority of Italians over blacks, but which I judge you have either not noticed or not comprehended. I can simply refer you

to pages 120 and 132, *A. B. J.* for 1886, but it has been much more fully treated in other places.

It is very rare indeed, friend H., that I write to any one as this is to you; but the spirit chanced to move, and its promptings were obeyed. Certainly, no harm can be done, while you may be induced to more fully investigate some of these disputed points before a revision of your work is made.

O. O. POPPLETON.

Hawks' Park, Fla., Apr. 1, 1887.

I see this article is already too long, and I must defer the "explanation and defense" of all these points until next issue.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

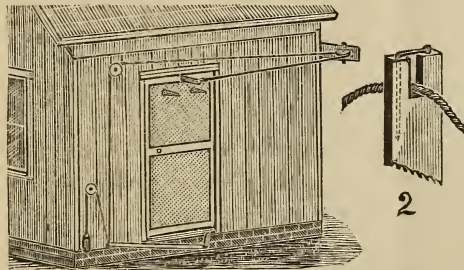
### SMALL INVENTIONS.

OUR FRIEND J. A. GREEN GIVES US A FEW VALUABLE SUGGESTIONS.

**A**S I go about my daily work I am reminded in numerous ways of the debt I owe to my fellow bee-keepers. Many a time a hint given, a method explained, or an improvement suggested by some one in the bee-journals, or at conventions, has been of the greatest service to me. I am not referring to startling theories or revolutionary methods or inventions, but *little* things that help to smoothe the way and make the lot of the bee-keeper pleasant. A little improvement, into which the author has worked his way so gradually that he does not realize that it is any thing new or particularly valuable, may prove a revolution and a boon to some fellow-worker.

HOW TO MAKE THE SCREEN-DOOR OF A HONEY-HOUSE OPEN BY FOOT-POWER.

I have experienced a great deal of satisfaction this summer in the use of a device which I think would be useful to a great many bee-keepers. Most honey-houses, probably, are provided with screen-doors, closing with springs. If they are not they ought to be. It is unnecessary to mention the advantages of screen-doors, and almost as unnecessary to say that they should close of themselves. A honey-house should be so arranged that it can not be left open for the bees to enter.



GREEN'S DEVICE FOR OPENING SCREEN-DOORS.

In carrying honey or other articles into the honey-house, both hands of the bee-keeper are generally full; and to open an ordinary door he must stop and set something down to get his hands free. This is not only an inconvenience, but it requires some little time, and in the busy season every moment of a bee-keeper's time is valuable. Sometimes, too, his hands are daubed with honey which he does not care to leave on the door-knob as a bait for robbers. All this inconvenience and loss of time is saved by arranging the door so that it can be opened with the foot. I have had such a contrivance on the door of my honey-house this summer, and it has proved a great convenience.

On the top of the outside of your door, nail a piece projecting outward five or six inches. Four or five feet away from the hinge side of the door, nail a board projecting about a foot from the side of the building, and four or five inches higher than the top of the door. In the outer end of this put a small grooved pulley, running horizontally. On the same level, and three feet from the other side of the door, put another grooved pulley, running vertically. A few inches further from the door, and three feet from the ground, put a similar pulley. Now fasten a strong flexible line to the projection on the door, and run it through pulley number one, then back over number two, then down to about two feet from the ground. There fasten it to one end of a light but stiff piece of wood about four feet long. Let the other end of this stick extend back under the door. Bore a hole through this end, and drive a loosely fitting pin through it into the ground. Fasten another piece of line to the free end of the stick; run it over the third pulley and tie a weight to it, heavy enough to raise the stick. Now, by stepping on the stick as you approach the door, the latter is opened; and as you pass through it closes behind you without your being obliged to touch it with your hands, while none of the rigging is in the way or interferes with the ordinary use of the door.

If the door-spring is strong enough, the weight and third pulley may be dispensed with; but with ordinary springs they are necessary to raise the treadle-stick.

AN ADDITION TO THE FOLDING TENT.

Another little convenience I have used this summer is an addition to your folding tent. I was often annoyed by the tent collapsing and blowing over just when I did not want it to. To prevent this I made two light sticks, 53 inches long, and sawed a notch in each end. I then drove a two-inch wire nail into the end on one side of the notch, and bent it over so as to close the notch. One of these sticks was then put at each end of the tent at the bottom, the cord placed in the notch, and the wire nail turned over it, holding it securely. This makes the tent much stiffer and more reliable. When the tent is folded, the sticks can be put inside of it. They add very little to the weight, bulk, or expense of the tent. See Fig. 2.

A SLIGHT DISCREPANCY.

Friend Root, on page 852, last year, at the close of my article, you make the statement that pins, 380 of which cost three cents, are cheaper than  $\frac{3}{4}$ -inch wire nails. Your price list says there are 2750  $\frac{3}{4}$ -inch wire nails in a pound. The price is 12 cts. per lb., so that 687½ nails may be had for the price of 380 pins, the nails costing scarcely more than half as much as pins. The expense of either, though, for bagging grapes, is insignificant.

Dayton, Ill.

J. A. GREEN.

Friend G., the point you make about the importance of having a door that opens of itself, or, rather, that can be opened by the foot, is an important one. I have, in similar cases, been accustomed to unlatch doors with my foot; but it is a wearying and ungainly thing to do, even if one succeeds. A good many times, the first kick with my toe didn't raise the latch; and sometimes, before I succeeded in getting the door open, I would get red in the face, and come pretty near (?) getting cross. Sometimes I have



managed to release the little finger of my right hand, and get that under the door-latch, and may be in so doing I would drop a comb of honey or push the latch into it. I know what it is to have sticky door-latches and door-knobs, and it always makes me disgusted with myself and things generally. Well, now I want to criticise your machinery a little for opening a door. It is *too much* machinery. I am sure some of our sharp inventors will improve on it right away. Can't some of the devices that have been so frequently figured for operating self-opening gates be brought to bear right here? You see, you have two cords, and three pulleys to be kept from squeaking. I suppose many of you have seen self-opening gates that were operated by fixing a lower hinge at the end of a short arm. Well, now, by making this short arm revolve a quarter of a revolution, the center of gravity is changed so the door swings open of itself, and this same operation raises the latch. The spring to bring the hinge back to its former position would close the door and latch it.

#### McFADDEN'S LETTER.

##### SOME SUGGESTIONS ON WINTERING.

I AM sure many of your readers will be interested as I was in the letter of Daniel McFadden. In it there is a whole romance for some one to bring out and color up—not that his statement of the results of "cold storage" is in any way to be questioned. Most assuredly, there is a substantial ground for believing that bees that are kept perfectly quiet consume vastly less honey. Entire darkness, an equable low temperature, and freedom from noise, are evidently the requirements. Here in the Southern-Middle States, where we can winter safely on summer stands, and where bees may fly out every month in the winter, the consumption of honey is often excessive.

Activity involves expenditure among bees, just as it does among the hardy lumbermen in winter, who can eat and digest a quantity of food that would ruin many another less laboriously engaged. Right here we have a case in point. Fourteen colonies in an outlying apiary, and run for extracted honey in 1886, had two full stories, 20 frames (I use the L. frames). I was totally unable to go and extract, and contract them before it became too cold, and they were left with not less than an average of 60 lbs. of stores, some having more. In overhauling them in April, but one colony was found with as much as 5 lbs. of honey, and some were nearly destitute of any honey. But such powerful colonies I never saw so early. No honey had been collected, and very little pollen, for frost had cut the alder and the willow.

In my home apiary of 100 colonies, better protected and shaded, and consequently less active, the consumption was much less, yet by no means so small as many of the records given in cellar wintering.

We are often annoyed by the excessive accumulation of pollen here. This spring, because of the frost just at time of bloom, very little was brought in, and all pollen-laden combs were quickly cleaned out when placed in the hives. J. W. PORTER.

Charlottesville, Va., May 4, 1887.

#### REBUKING PROFANITY AND OBSCENITY.

##### THE TESTIMONY OF A BROTHER IN SUCH MATTERS.

BRO. ROOT:—I sincerely sympathize with you in your surprise at the state of morals existing in a neighboring State. While I regret that, while you *hesitated* about rebuking such profanity and obscenity, I have no doubt but that it was the evil one that furnished the apologies for delay. In my own experience for many years, I have always tried to reprove whenever I have heard such talk, on the street, in stores, or at depots, on the spot, and to do it in such a manner as to express how my feelings were pained by such language, and I have as yet never been insulted for so doing; and I believe that, if you had done so on hearing the first expression, you would have succeeded in putting an effectual stop to it for that time. Here let me add my conviction that they, when they perceived that you were listening, continued the discourse, and added to its degrading depravity and blasphemy—it may have been on purpose to torment you. I have heard of just such cases before. There is one command that I think is not sufficiently regarded by Christians nowadays in Lev. 19: 17, and which, if we all tried more implicitly to obey, our heavenly Father would give us the words and right spirit to rebuke sin; then would be verified his promise in Lev. 26: 3-8. May he help us to be "wise as serpents," is the prayer of yours most truly. A. H. VANDOREN.

Mons, Bedford Co., Va., May 8, 1887.

Thanks, friend V. I, too, have never yet received any abusive language when I have tried to rebuke such things, unless I except one man who excused himself for swearing by saying he supposed this was a "free country." But I am afraid that Christ's spirit was not in my heart at the time I reproved him. Your testimony encourages and strengthens me, and I thank you for the texts you quote.

As it may trouble some of our friends to hunt up their Bibles and find the references I give them here.

Thou shalt not hate thy brother in thine heart; thou shalt in any wise rebuke thy neighbor, and not bear sin because of him.—LEV. 19: 17 (New Revision).

If ye walk in my statutes and keep my commandments, and do them; then I will give you rain in due season, and the land shall yield her increase, and the trees of the field shall yield their fruit. And your threshing shall reach unto the vintage, and the vintage shall reach unto the sowing time: and ye shall eat your bread to the full, and dwell in your land safely. And I will give peace in the land, and ye shall lie down, and none shall make you afraid: and I will rid evil beasts out of the land, neither shall the sword go through your land. And ye shall chase your enemies, and they shall fall before you by the sword. And five of you shall chase a hundred, and a hundred of you shall put ten thousand to flight: and your enemies shall fall before you by the sword.—LEV. 26: 3-8.

There, brothers and sisters, is not that promise strong enough? and I have not a particle of doubt but that it will be fulfilled to the very letter. If we push forward with Christ's spirit in our hearts in this matter of rebuking such talk, verily shall it prove true that five of us shall chase a hundred, and a hundred shall put ten thousand to flight.

## HAND-MADE HIVES, ETC.

## HOW TO MAKE A SAW-TABLE OUT OF AN OLD SEWING-MACHINE.

FOR the benefit of your A B C class I will give my four-years' experience in making every thing I use in my apiary. Some of these A B C scholars, who doubtless, like myself, have more time than money to spend with bees, and can not afford the expense of a \$25 or \$50 order (including a heavy freight bill) for a small apiary of some 15 or 20 hives, perhaps may be trying to manufacture their own hives, frames, crates, etc., with hand-tools.

For an L. hive I make a plain box of right dimensions, with a rabbet  $\frac{1}{4}$  inch cut on the upper inside edge of each end board. I also cut a  $\frac{1}{8}$ -inch slot in the lower edge of one of the end boards for an entrance, and nail on a tight bottom-board (which I much prefer). For upper stories I use these same plain boxes without bottom. The end boards can be cut in a miter-box, and have very true and accurate work. I use inch pine boards dressed on the heart side, and nail well. For covers I use a plain board cleated at each end, and laid directly on the hive.

For section crates, I make a plain box (sides of  $\frac{1}{2}$ -inch stuff), with a strip of tin nailed on each lower edge of the ends, to support the wide frames one tier of sections high. I make all my frames for brood and extracting purposes from common lath, ripping them through the center. This gives a nearly  $\frac{3}{4}$ -inch frame (I use the Heddon reversible frame); and after nailing the end bars to the top and bottom bars with the additional top bar, I find they are very stout and easily manipulated. After once reversing they need no wiring, as I tested by having to move my whole apiary a distance of 25 miles over a rough road the past winter, with only two heavy combs of honey breaking. I will here say, that I much value this reversing system for perfect combs. For nailing frames, the Root wire nails are indispensable. Until the present season I have cut and made all my bee-fixtures with hand tools, such as saw, plane, square, and hammer. I can say to your ambitious A B C youth, you can make all you need, without machinery, even if you have but little knowledge of tools, for I am but a youth, and never handled tools until I began making hives and fixtures for my own use.

## A HOME-MADE SAW-MACHINE.

I will speak of a home-made sawing-machine which I rigged up the present season. This will also answer friend Poulder's query on page 215. I have an old cast-away Wheeler & Wilson sewing-machine table, with treadle, given me by a neighbor. To the shaft I adjusted a twenty-inch band-wheel, taken from an old cider-mill. With a \$2.50 Root mandrel, a 6-inch saw, and this machine, I cut all my lath for frames, and make my honey-crates. I am so well pleased with such accurate work I would not part with it on reasonable terms. Tell friend Poulder that, in place of the treadle formerly used, use a stout 4-ft. board with one end on the floor, the other attached to the shaft by means of a strap.

4—W. H. LAWS, 25—37.

Lavaca, Ark., May 2, 1887.

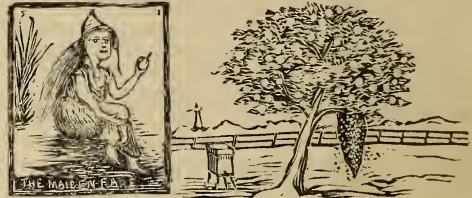
Very good, friend L. The fact that you have used these things successfully is an unanswerable argument, and we heartily commend your energy and industry.

## OUR P. BENSON LETTER.

## THE SWARM APPEL TREE.

WUZ a maden fare  
With golden hair  
Whitch sot thare  
In the place whare—they was a big stone.  
She sot onto the stone. Madly the wild winds  
tost her flowing lox, while the gentle zeffers softly  
fand her peach-blow cheeks. She wuz a chankin  
down a appel.

Twus at the witchin our of nit & oll wuz cam. Oll wuz still. Oll wuz sereen. She took another bite of the appel and a seed fell out. Softly and thotlessly in the still darkness, mayhap unkonshus of the grate futur before it, the little seed mandered on its wa to the ground. That thair seed groad up into a big appel tree.



THAT APPEL TREE.

Yeers passed, time went on, & 1 da, it was Joon 10, a swarm cum out. The swarm lit onto that identikle appel tree. The swarm and the appel tree boath belonged to me, whitch I am P. Benson, A. B. S. I spose you noad who I was without my tellin you, but it's no harm to maik sure. Well that swarm was a big 1. It wuz enormuss. I never see sitch a big swarm on enny uther tree. That was a Toosday. I woont be sure now, but I think it was a Toosday. I like to tell a thing jist as it is. Well, a Monday next following, a swarm cum out of the same hive and lit onto the same tree. It was a big swarm. I never see a tree have 2 sitch big swarms. Then a Wensday a swarm cum out, also a Thursday. I never see a tree befour git 4 sitch fine swarms onto it oll from the same hive. A Friday & a Saterdag cum 2 more swarms, makin (6) six swarms whitch that thair tree fetched out from the same hive. The equill of that tree for gettin fine swarms and plenty of them izzent to be found. It haint enny equill.

That fall in the otum of the year we getthered off that tree sixteen—I disremember jist now if it was barrels or bushels, but we woont quorl about that, weal call it barrels,—sixteen barrels of as nice apels as you ever sot ize on.

The benefit of sitch a tree is esey to sec. Suppose a man or even a wooman or a invalid, starts with 40 hives and gits one of these trees. Eech hive will make 6 swarms and countin the old 1, that makes 7. So if he starts with 40 he will hev

in 1 year.....	280
in 2 year.....	1,960
in 3 year.....	13,720
in 4 year.....	96,040

But mebbe the 4th yeer wood be extra good, sum yeers is better then uthers, in whitch case instead of 96 thousand it mite be 100 thousand. Weal call it a hundred thousand. Now let him sell these at \$10 apeece & ittel make a cool million dollars.

The price of seeds of this appel tree is 5 sents eech; 3 for a dime. Cash must accompenny the order, or a draught on Noo York.

P. BENSON.

Apieulturistical B. S.



## GROWLERY.

**T**HE following comes to us on a postal. As it was written in German, the clerk who opens the mails has translated it. I mention this, because friend S. may claim he did not mean it as rough as it sounds below, but I believe our translator has aimed to put it mildly rather than otherwise.

If you had used me right you would have had \$50.00 worth of trade from me this season. The wax-extractor leaked, and I lost 5 lbs. of wax, and had to have it fixed. You do not care whether your goods come early or late. You could have helped it, if you wanted to, so that my goods would have gone right through. If you have your money that is all you care for. I have lost all confidence in you.

P. SCHONS.

Kellogg, Minn., Apr. 24, 1887.

On reading the above I asked for the previous correspondence, and I can not see that we failed to comply with any request made by friend S., except that he directed us to mark 6000 sections, one smoker, foundation-fastener, wax-extractor, and some wire nails, as perishable. He evidently wanted them marked "perishable," so the railroad companies would hurry them through. I presume the shipping clerks disobeyed orders here, and I certainly should have told them to do so had the matter been referred to me. The above goods can not in any sense be called perishable, and we can not consent to anything that sounds even like untruthfulness, even if we do lose custom thereby. As it is customary to so mark nursery stock, fruits, and vegetables, where they are risked to go by freight, expecting the railroad officials to take extra pains on that account to hurry them through, an extra price has to be paid for this class of freight. Now, some might decide that, if the owner is willing to pay the extra transportation charges, he has a right to mark a box of sections "perishable," if he choose. There may be a difference of opinion in regard to the matter, but I should not want to do it any more than I would want to mark honey as molasses, in order to secure a lower rate of freight. If I can not do business successfully, and mark the contents of a package exactly what it is, then I do not want to do business. Is not this the better way, friend S.?

In regard to the wax-extractor leaking, I can not quite understand the matter. The wax is expected to run right out of any wax-extractor, just as fast as it gets melted. If you lost five pounds of wax because of any blunder or remissness on the part of our tanners, I will pay for it; and I beg to assure you, dear friend S., that we try to use all of our customers right. We do care very much whether the goods come early or late, and we will do almost any thing in the world we can do to expedite business, consistent with strict honesty and integrity. I am sorry if you have lost confidence in us; and I hope, after the above explanation, you will reconsider your decision.

## A LETTER FROM SOUTH AUSTRALIA.

THE HONEY SEASON THERE FROM FOUR TO FIVE MONTHS LONG; 500 LBS. PER COLONY.

**A**MONGST other things to which particular attention has been called of late, the bar-frame hive has had a place. South Australia produces a heavy crop of honey, and under the old box system has been noted for years past for the quantity and quality of honey produced; but now since the A B C of Bee Culture has become a household book, the quantity of honey produced threatens to swamp the market. But this, I think, will work its own cure by exterminating those producers who will not take the trouble to put their goods in the market in good shape. We have a very heavy honey-flow this year; and as the season lasts for about four or five months you may imagine what a harvest might be gathered with the best appliance and good bees. We have no winter here—only a month or two of rough and rainy weather, so that in settled and cultivated parts bees can gather all the year; consequently the brood-nest is always pretty full. In country parts, the honey-harvest is gathered from the various species of eucalyptus, some of which bloom yearly, but the bulk bi-yearly. The red gum is a wonderful producer, and, being a very large tree, a single tree will produce many cwt. of honey, so that a strong colony of bees will gather, when the extractor is kept going, 400 or 500 lbs. in a season.

### THE INFERIORITY OF BLACKS TO ITALIANS.

As this refers to the black German bee, we may look for still better results as the Italian and Cyprian blood asserts itself. I am running about 80 colonies this season, a few imported queens, a large proportion of hybrids, and a few blacks; and I would just like to say that I find the blacks are nowhere beside the Ligurian or hybrid in the quantity of honey gathered, or in general progress. They are very easily discouraged, and, I think, lazy withal. I expect about two to three tons of sections this season, of a quality which leaves nothing to be desired. I am just beginning to take off a few, and expect to be at that pleasant occupation until the end of April.

### HOT WEATHER.

The weather at present is very hot. Last week we had it up to 112° right in the shade. A good many poor bees suffered in consequence, where not properly ventilated or shaded, by the melting of the combs. I am sorry to say I was caught napping myself by having some good queens in nucleus boxes with small entrances, and I lost six in consequence—one imported queen and four purely fertilized of my own rearing. None of the full colonies suffered, as I wedged up the bodies of the hive to insure plenty of ventilation.

By the aid of a gas-engine, 3½ H. P., I have turned out for others about 3000 hives and appliances. In hive-making I adopted the same principle of fitting as the four-piece sections. I had a machine made to my own order which takes out a row of ¼ dovetails. It works speedily and well, and gives, when knocked together and nailed both ways, a strong hive-body, as well as insuring each part coming up square into place. The Simplicity has been pretty generally adopted in these colonies, and I think meets all requirements.

### PRICE OF HONEY IN AUSTRALIA.

At the present time, honey is bringing here,

wholesale, 3 pence for extracted and 6 for 1-lb. sections, which will pay well if a little attention is given to the apiary.

#### FOUL BROOD AND THE PHENOL CURE.

Our great trouble is foul brood. We are well acquainted with all the different phases and descriptions given from time to time in the bee-journals. For my own part I ceased to dread it after I got hold of phenol cure—not by feeding, for that would be impossible, unless by shutting up the bees—but by spraying bees and brood with a weak solution—1 in 400. I find that two or three sprayings is quite sufficient to eradicate the disease. The disease is so widespread that one can never be quite safe for any length of time. Some careless or ignorant neighbor may at any time communicate the disease. With no winter to contend with, we should be overrun or overpowered with bees if nature did not put some check upon increase.

#### HOW TO GET RID OF SMALL BLACK ANTS.

I have been terribly troubled with small black ants—so bad that I could not keep any thing like a nucleus; in fact, they would put four or five frames of bees out of doors. After taking all manner of trouble to try to keep them off the hives I have set to work to try to poison them. To be safe in dealing with such dangerous stuff, I made 50 small feeders with the section groover, on the same principle as the Simplicity feeder, and then cut a piece of board large enough to cover the feeder. This piece of board was screwed on top by a single screw in the middle, but with a  $\frac{1}{8}$ -inch strip of wood between at each end, so as to leave room for the ants to run in. When charged with poisoned honey in the grooves, the top board was securely screwed on, and one slipped under each hive where the trouble was. Judging from the attention they were receiving an hour or so afterward there should be a good many ants less in a few days. I think this will meet the trouble, and it is inexpensive.

For getting rid of large ants which congregate in colonies, I have found nothing so speedy as breaking up the ground, and then sinking a few earthenware basins so that the rims are flush with the surface. A little fire wood ashes sprinkled into the basin makes the sides so slippery that no ant that once enters ever returns. A day or two will generally suffice to trap the greater part of the ants. Anxiety of mind to climb up the side of the basin will generally bring about death; if not, a little boiling water will. I have found the plan answer where every thing else failed. It is, like the other, inexpensive (if you borrow the basins and don't break any).

I should like to add my testimonial to the many you constantly receive, to the pleasure which the perusal of GLEANINGS gives; and not only pleasure, but profit—not profit measured by dollars, but by a standard which teaches us to "lay up treasure in heaven."

#### THE TOBACCO COLUMN.

I am greatly interested in the smoker column. Thankful I am, after years of slavery, to be delivered from the bondage of a pipe, and to be free from a habit which was offensive to others, and miserably mean and selfish at the same time. I am glad to see so many others laying aside this filthy habit. Three years since, I laid the pipe aside, and intend never to touch it again, although so strong are the old habits that the very writing about the subject brings back the old desire to some extent; but I don't fear the enemy.

#### THAT JUBILEE EXHIBITION.

As probably you are aware, we are holding a jubilee exhibition this year which promises to be a grand success. I hope you will be represented. Victoria follows suit next year with a colonial centennial. Victoria is a wonderfully progressive colony. Melbourne, the capital (with which we are this month connected by rail) promises to be a second New York. We sadly lack a customs federation. We have different tariffs, and shut out one another's products. For instance, we can here produce fruit to any extent; but Victoria says, "We won't have your fruit, but will grow our own, even if not of so good a quality," and so taxes imported fruit 2 pence. The same way with honey. I am offered in Melbourne 9 pence for comb, but would have to pay 2 pence for all that crosses the border. We are slowly, I think, working toward a federation of the Australian colonies, but we are dreadfully jealous of each other. LEONARD T. CHAMBERS.

Adelaide, South Australia, Apr. 4, 1887.

I am very glad, friend C., to get so good a report from Australia. Four hundred to five hundred pounds per colony is indeed wonderful, if you have many colonies that do that. Are you sure a single tree of any kind will produce as much as even 100 lbs. of honey?—Your testimony in regard to the common bees compared with Italians seems to be about the general verdict.—We have often thought of a hive-body to put together like a four-piece section; but unless kept well painted it will allow the water to soak into the dovetails, and hence we decided we should not like it, and the matter was dropped. I am glad to hear you also give a good report of the phenol cure.

#### BUMBLE-BEES.

ALSO A GOOD RECOMMENDATION FOR THE NEW BARNES COMBINED SAW.

**W**HEN don't Prof. Cook, G. M. Doolittle, and others, in writing about bumble-bees, tell that the drones, or stingless bees, have a white, or rather yellow spot, on the head, and can thus be easily distinguished from the others. These are the fellows that sit on a mullein-top, as Mr. Doolittle says, and seem ready to fight any thing that comes their way. I have surprised people more than once by catching one of these white heads, as we call them, and when a boy, which was only a short time ago, my brothers and I used to catch the white heads and try to get other boys to do the same, but not tell them how to distinguish the stingless bees, and in that way have the laugh on them. But I believe we never found many who were willing to try the experiment. If I remember correctly, I have found these same white heads hibernating in red-cedar posts when split open in the spring. However, it was so long ago that I am not quite sure. Whenever you see a bumble-bee with a square yellow spot between the eyes, and always ready for fight, you need not fear him.

We have now owned a Barnes new combined foot-power saw for over a year, and are so well pleased with it that we feel like telling the readers of GLEANINGS, who may not be familiar with the machine, what we think of it. Our shop is in an unfinished house, and therefore was too cold to work



in during winter; but since the weather has begun to moderate we have been at work a part of the time. We have sawed out about 40 Simplicity bodies and covers, 10 nucleus hives, 180 metal-cornered brood-frames, dovetailed; also ten 2½-story hives. We have now 40 more hives in construction, and enough lumber grooved for ripping into frame-stuff which will make four or five hundred frames.

We have not kept any account of the time we worked; but to tell what the machine will do, we gave it a trial a few days ago. My brother held the watch while I ran the saw, and I ripped ten feet and nine inches of ¾-inch pine in one minute. The manufacturers of the saws claim that it will rip eight feet of one-inch lumber per minute; but if I have calculated correctly, what I cut would be equal to 9 13-32 ft., being almost 1½ feet more than is claimed for it. We would not take twice what ours cost us if we could not get another one. During the time we have had the machine it has been necessary for us to order some parts from the manufacturers, and the orders, though very small, received the most prompt attention, and we think any one having occasion to deal with the above firm will find them very pleasant men.

POLLEN THE SIXTH DAY OF MARCH IN CENTRAL MISSOURI.

Our bees gathered pollen on and perhaps before March 6th, but the sixth was the first we noticed. Since that time there has been some fine weather and they worked quite lively; but for the last few days it has been rather cool and windy. We went into winter with 12 colonies; bought three during the winter, one of which we lost; also one of our own died, leaving us 13. This spring we bought 18, and in transferring four of them we found one of them queenless. This leaves us 30 colonies, 16 of which have to be transferred.

S. E. MILLER.

Bluffton, Montgomery Co., Mo.

### BUMBLE-BEES, AGAIN.

PROF. COOK'S HEARTY INDOORSEMENT OF DOOLITTLE'S OBSERVATIONS.

**M**R. EDITOR:—You do not know with what astonishment and pleasure I read Mr. Doolittle's article on bumble-bees, page 302, GLEANINGS. I am free to say, that not one man in 10,000, with no favoring circumstance to guide his observations and study, would show such accurate knowledge and observation as he evinces. It is a significant fact that has often interested me, that men like Messrs. Doolittle and Heddon, men who are naturalists by nature, are almost sure to make a striking success of whatever they undertake, unless, forsooth, they are naturally so indolent, and wanting in energy and push, that there is no foothold in their lives for success. This is why I would incite in the mind of every child a love of nature and its study. It is an easy task to stimulate such a love; and it serves wonderfully to aid in the struggle for success in this practical age; and, best, by leading the mind and thought toward good things it helps to fortify one against the evil that is in the world. What a rich mine of pleasure our good friend Doolittle has found in his close study of every thing about him! What a wonderful aid this cultivated observation has been to him in his bee-keeping life! and through him it has blessed every bee-keeper in the

land. What helps any honest laborer in any useful occupation, blesses the world and rejoices the All Father.

Yes, I feel sure that the queen bumble-bee hibernates. Deep in the ground or in some other protected spot she survives the winter, and awakens with the lilacs and apple-blossoms, to her important work.

Again, my observation agrees with that of our friend, in the statement that the egg is placed in the pollen mass. The cell is formed by the food-taking of the hungry, rapidly growing larvæ. Afterward this cell is waxed and is made a honey-cell. This is what friend Doolittle and I used to pilfer from the poor bumble-bees. Often we learned that the curved cimeter of the bumble-bees is well prepared to protect their precious stores, and I am not the one to say that it did not serve us right.

I am not prepared to say positively that there are not large and small workers, but I am doubtful. Several times I have chloroformed whole nests, and examined every bee, only to find workers, queens, and drones. The young unimpregnated queens were smaller than the old queen, and larger than the workers. We will examine further, friend Doolittle. You know that prince of observers and naturalists, Huber, said there were two kinds of worker honey-bees. We do not think so now. Careful observation and examination make me quite sure, in some cases at least, the bees in the bumble-bees' nest correspond exactly in sex and kind with our honey-bees. I wish our friend would send me his six species next year. I will report the names in GLEANINGS.

Our students have often asked me about the shade-bees. Every bee-keeper would understand at once why such bees would never sting. Our friends clubbing the shade-bees with dirt-clods, as many a boy has thrown a stone to see his sportive dog run for it, is as interesting as it is exceptional. What other reader of GLEANINGS ever did that? And who have noticed the swarming-out over nests in August? How I wish every boy in the country could have the privilege of a walk once a week with our friend Doolittle, through meadow and woodland! What a new world this would be to them! Add to this the weekly visits of the *Youth's Companion*, and how few of our boys would go to the bad.

As to close in-breeding. I do not believe nature invariably abhors close in-breeding. She abhors imperfections; and if such are closely inbred she exterminates the whole race. Many plants have to breed close, and thrive at the same time. Bates and Collins originated our grandest strains of short-horns by just this close in-breeding. It is the most potent instrument in the hands of our best breeders to-day. With the bumble-bees, what a gain, in the way of security from danger, is this habit!—such a gain that it overrides any disadvantages by way of close in-breeding in importance. The man who took the leading premium at our last State Fair had bred his short-horns right in for three generations. I know of another excellent breeder who did the same with marked success for a much longer period. I should much prefer to breed in closely with good animals, than to use a poor out-cross.

A. J. COOK.

Agricultural College, Mich., Apr. 26, 1887.

I am very glad indeed, friend C., to hear you speak such kind words of our old friend.

One of the things that first struck me in his early writings was his habit of close, keen observation, and the enjoyment he seems to take in digging out Nature's secrets. Will the friends now pardon me for saying that we have now devoted as much space to bumble-bees as we can spare? The honey season is upon us, and more important matters are pressing.

### MORE ABOUT OUR CELLARS.

TERRY ON THEIR CONSTRUCTION, VENTILATION,  
AND TEMPERATURE.

**FRIEND ROOT:**—A correspondent thinks I was somewhat mistaken on one point, in a late letter about our cellars. I said, in substance, that when the burning fire took air from the rooms, more would have to come in from some quarter, and that, under ordinary conditions, much would come from the cellar, right through the loose inch floor-boards. Also that the tighter the doors and windows were made with weather-strips, etc., the more air would be drawn from the cellar. Now, our friend thinks that, if the doors and windows of the cellar were shut up tight, as they are during the cold weather, little or no air could be drawn into the living-rooms, as there would be little chance for more to be drawn into the cellar to fill its place. This depends largely on circumstances. If the cellar wall was built of hollow bricks, and these bricks were made of sewer-pipe clay, and glazed, and the doors and windows shut very tightly, it would not be an easy matter to draw much air into the cellar; still, there would always be some—enough so that it would be wise to plaster the cellar overhead and keep it as pure as possible.

The writer's cellar wall is made of these hollow bricks. But how many cellar walls do we find built in this way? A very great many are built of common sandstone, through which the air will go almost as readily as through an inch board. Air doesn't come through the mortar on the sides of the living-rooms readily; and if the doors and windows are made very close-fitting, you may be sure that, with the ordinary loose inch floor and sandstone cellar-walls, a large part of your winter supply of air comes to you by way of the cellar. This is bad enough; but what shall we say when a bank of manure is put up around the cellar-wall to keep the cellar from freezing? I wonder how many who use manure for banking ever thought that their breathing-air in the house would be tainted all winter with that manure. Perhaps not one; but still this would be found to be the case as a rule. So we want to be careful and have the outside of our cellar wall clean as well as the inside.

The writer rode by a house thus banked up, last winter. A hearse and a number of teams in the yard looked as though there had been a death there lately. I could not help but wonder if the condition of the air they had been breathing had not hurried some loved one away sooner than was necessary. As one goes to the North he sees manure used to bank up cellars much more than in this latitude. It is handy, as every one, almost, has plenty of it; but certainly no thoughtful husband would use it outside of a sandstone wall, where the dear ones lived in rooms over the cellar. Sawdust or even dirt would be far better. But in our latitude there

is no possible need of any banking. It looks badly at the best. A banked-up cellar is very apt to be kept too warm for the good of the vegetables. Hang two thermometers up in the cellar at the coldest points. Early in the winter leave the windows open on the south and east sides, until you get the temperature down to 35° at least. When there comes a cold night, and the thermometers show a temperature close to freezing, light an oil-stove for an hour or two, warming it just barely enough to tide you over the cold snap.

We never bank up our door or windows in the least, and some 18 inches of wall are exposed all around the house; but we never have any thing freeze. I doubt whether we burned more than 10 cents' worth of oil during last winter. Perhaps half a dozen times the stove had to be lighted for a short time. We have plenty of choice eating-apples yet. Very few rotted. I know many farmers who kept their cellars banked up too warm, so as to have them able to stand a cold snap. Their apples were all rotten long ago. Some of them have sprouted their potatoes already. A thermometer and oil-stove, and a little thoughtful labor, would change all this. And then the good wife would find the oil-stove so nice to heat the irons or boil the tea-kettle some hot day in the summer. Even if one does bank up the cellar, the thermometer would show him, oftentimes, that he was keeping it much warmer than was necessary. A thermometer costs but a few cents; but I venture to say, not one farmer in ten ever keeps one in his cellar.

A cellar kept down near freezing, all winter, would make the living-rooms above colder, with only a thin board floor between; but plaster it overhead and put building-paper under carpets (the best way to keep impure air from coming up), and you will not be troubled with cold floors.

A vegetable-cellar somewhere else than under the dwelling-house would be better, perhaps; but I have been trying to show in my two letters how we could take cellars as we find them, and used as they are used, and so manage them as to run almost no risk to our health and still keep our vegetables in the best possible condition.

I am afraid you will say that I stopped too quick again, so I will add that to-day, May 2, we have bushels of Peck's Pleasant apples, not a late-keeping variety by any means, that are sound and nice to eat, in our cellar. And we have 50 bushels of potatoes for seed that have not sprouted to speak of, and we hope to be able to keep them back another week or ten days. Our earliest potatoes have sprouted a little. As a rule we can keep them back until this date.

Friend Root, when I wrote that letter that made you "almost provoked because I stopped so suddenly," I looked up at the close and saw how many pages I had written, and thought of what you said in GLEANINGS, not long ago, that friends must make their letters short, or you would have to cut them down, etc., and I just wound right up as quickly as possible. I believe you were right too. We are not heard for our much speaking. This reminds me of a story my father used to tell:

When he was in the theological seminary the president once told the young ministers that if they should take a hatchel (the younger readers of GLEANINGS will have to ask their grandparents what this is), and stuff it full of tow, cramming in all they possibly could everywhere, they could



then sit on it and ride to Boston; it would make a comfortable seat. "But," he says, "young men, if you should pull the tow all out you would find it a very pointed seat. Now leave the tow out of your sermons. Let them just be full of clean sharp points, that can not fail to prick the hearers."

We do not want too much tow in our articles either, so that, when one gets through reading, the points will have been all smothered in his mind by the mass of unnecessary words. T. B. TERRY.

Hudson, Ohio, May 2, 1887.

Friend Terry, you have given us some very important suggestions, and I have been for a long time thinking of the importance of keeping our cellars, especially our vegetable-cellars, as cold as possible and still avoid freezing. A good deal of attention has been given to cold-storage rooms, that cost ever so much money; but I believe it has been decided that fruit and vegetables of many kinds can be kept almost as well on the plan you give—that is, keeping the air in the cellar cold by opening and closing the windows at the proper time. I can readily understand how the coal-oil stove would be very much better, and I think cheaper too, than making our cellars too warm just because of the rarely occurring severe days and nights that might let the frost in. This subject is intensely interesting to me; but perhaps I shall have to set an example too, by being brief. But I want to say, before closing, that I do not believe that a single one of the 7000 subscribers to GLEANINGS has thought that *you*, friend Terry, had even once written at too great length. Your talk concerns the homes we live in, and this all-important matter of the health of the inmates; and the most of what you give us has never appeared elsewhere.

#### ABOUT SPREADING BROOD.

FRIEND DOOLITTLE TELLS US HOW TO DO IT AND HOW NOT TO DO IT.

**F**EARING that all do not understand just how to manage the spreading of brood so as to have it an advantage rather than a disadvantage, I thought a few words at this time from one who has practiced it for the past 15 years might not be amiss. Some think that at best there is no gain in such an operation, or, at least, not a gain proportionate to the labor involved; but from several tests made by leaving whole rows of hives through the bee-yard undisturbed, while a row alongside had the brood spread as about to be given, I find those manipulated gave results above the others more than double enough to pay for the extra labor. The trouble with most of those who try the plan for the first time is, that they begin to manipulate the brood too early. There can be nothing gained where there are three or four combs one-fourth full of brood, by spreading them apart and putting an empty comb between; for by so doing we simply spread the brood out in an unnatural position, and work on the plan of scattering the heat instead of concentrating it. Besides, as long as this state of affairs exists they have already got brood in more combs than they should have; for all will see that, if all this brood were put in one comb, and that comb placed in the center of a chaff hive made for only one

comb, the bees that hardly covered it before could hardly crowd into the space it now occupies.

To get at what I wish to illustrate, let us suppose that we could get that ordinary colony of bees with its brood in four combs as above, all on one comb, and no room for the bees except in this space, it will be seen that quite a proportion of the bees would be obliged to cluster outside. To obviate this outside clustering we will enlarge our hives so as to take one more comb, which comb is put in. Now having our heat and bees condensed to the right proportion, we would find that the queen would lay in this comb at the same rate she would in July, filling it with eggs in three or four days; while, had we not done this, the brood in the four combs with a whole hive to carry off the radiating heat would not have advanced to the amount of one-sixth of a frame. In a few days, more young bees from our first frame have hatched to such an extent that they are again crowding out at the entrance, when we once more enlarge the hive and put in another comb (putting it in the center this time), which is filled as quickly as before, and so we keep on, till one hive is enlarged to the breeding capacity of the queen. Does any one doubt but that we shall have a hive full of brood and bees long before we should if nothing had been done? If such doubt exists, an experiment or two along that line will convince any.

Well, now, to practical work. As soon in spring as the first pollen appears, shut the colony on to the number of combs containing brood, using something to confine the heat as much as possible for a division-board. If these combs of brood do not contain honey enough, use a feeder such as I described a few months back for that division-board, and feed, or leave combs of honey beyond the board so the bees can have access to it. Now leave them till the two central combs have brood clear down to the bottom outside corners of the frames; for manipulation previous to this would not help a bit, as they already have all the chance for spreading their own brood that is needed. As soon as you find the two central combs thus filled, reverse the brood-nest, by which I mean put these two central combs of brood on the outside, and those outside in the center, when, in a very few days, we shall have our combs and colony in just the shape of the supposed colony we spoke of above, and are to proceed in the future on the same plan. The main idea is, in the concentrating of the heat, and that in such a way that the young brood and eggs are always in the warmest part, rather than all around on the outside, or in the coolest part, as they are in the manipulated hive. It will also be seen, that, if we work as above, there is not the least shadow of a chance of chilling the brood; for room is given only as the bees need it. The spreading of the brood in a full hive where there is brood in from four to six frames, and those only from  $\frac{1}{4}$  to  $\frac{3}{4}$  full, is only labor thrown away, and a risky operation besides; for the bees have already too much room; but the concentration of heat, and the management as given in this article, is a sure road to success; or, at least, so says an experience of a dozen or more years.

Borodino, N. Y., Apr., 1887. G. M. DOOLITTLE.

I quite agree with you, friend D., only I do not believe I would want to undertake crowding the bees on to one frame very early in the season. I have done it in the

hot summer months with good success, but it always seemed as if they needed about two combs to make a start, and even three seems a good deal better. Perhaps the L. frame may work a little differently from the one you use; but I believe if I were commencing the first of April to contract, I would not reduce any of them to less than three combs. If they could not fill the space I would let them manage their own way until they could; and when the little colony gets so strong as to crowd outdoors during very warm weather in the month of April, I would be a little slow about giving them another comb. A severe frost may not only crowd them all into the hive, but perhaps so near the center of their two or three combs it might leave some brood exposed. With *good packing* about three combs. there ought not to be much danger.

There is another point I feel a little undecided about. When bees have a little unsealed larvæ on one side of the comb, and cells filled with pollen right opposite on the next comb, is it ever advisable to move these combs so as to upset the arrangement? I have watched it quite a little, and it always seemed to me as if it were asking your wife to get breakfast as quick as she does ordinarily, with the cook-stove put in the cellar and the dining-table upstairs. She usually wants the cook-stove not only on the same floor, but pretty near by the breakfast-table; and the bees plainly tell us they want newly gathered pollen about as near the unsealed larvæ as they can possibly place it. Now, if you will take an outside comb and put it in the center, a good deal of hard labor for the little chaps is caused by the transposing and upsetting. The children will wait to be fed, while the breakfast-table is away around on the other side of the comb—may be a whole comb intervening between the food and little ones. I know they will change things about and get things handy in a pretty short space of time; but I have thought that colonies that were not mixed up in this way made the best bees.

#### T. P. ANDREWS' HIVE-CART.

##### HOW TO MAKE IT.

THE cart I use in my apiary (see cut, Jan. 1st GLEANINGS) was made according to directions given me by a bee-keeping friend by the name of S. Smith, of Mattoon, Ill. The wheels are 23 inches high, and are made of  $\frac{3}{4}$ -inch surfaced pine lumber which should be as much as 16 or 18 inches wide. Each wheel consists of three disks of lumber; the central and largest one is 23 inches in diameter, made of two widths of lumber. The others are 12 and 20 inches respectively. These two smaller disks are beveled around their circumference to a feather edge, and securely nailed, one on each side of the large disk. The grain of the smaller disks crosses that of the large one, thus giving it strength and thickness enough at the center to hold the boxing in very firmly. This consists of a piece of  $\frac{3}{4}$ -inch gas-pipe,  $3\frac{3}{4}$  inches long. The axle proper is made of a piece of iron rod, a trifle smaller than the bore of the gas-pipe, into which the axle is slipped, and around which the box revolves. Flanges are welded on the axles

at the inner ends of the boxes. Holes are punched at the outer ends of the axles, and linchpins hold the wheels on.

The body of my cart is also made of pine lumber. It is about 4 feet long and about 20 inches wide. It is made to hold three hives or comb-boxes at a load. The depth of the body is six inches. The cut is not entirely correct. The cart is not wide enough to take in two hives side by side, but is long enough to take in three hives. The side-boards do not taper out into handles like a wheelbarrow, but are cut off on a bevel, and are connected by a cross-piece that can be grasped by one or both hands. The axle is made as short as will permit the wheels to turn freely without rubbing against the side boards. A three-inch cross-piece connects the two side-boards. To this the iron axle is fastened by two carriage-bolts, the heads of which have been cut off and the ends bent into hooks which grasp around the axle. The cart should be supported in a horizontal position by two legs like those of a wheelbarrow placed near the front end. The lumber and iron work of the cart cost about one dollar, and is, in my opinion much, more convenient in the apiary than a wheelbarrow. It is narrow enough to pass through an ordinary door, so that it can be drawn with its load of combs into the honey-house.

Farina, Ill.

T. P. ANDREWS.

Thank you, friend A. And so it transpires that the home-made cart was an "iron ex," after all. Your plan of construction is quite ingenious; and if you draw the cart in when it rains, those pine wheels will last a good many years, and do much service.

#### A WELL-SPENT DOLLAR.

A TRUE STORY, WITH A MORAL TO IT FOR THE BOYS.

MANY years ago there lived in this county a farmer by the name of Mr. W., who had, among other children, a son about fifteen years of age, by the name of Thomas. He also owned a negro boy of about the same age as Thomas; and as these boys were thus thrown together they naturally became very intimate. Among other diversions they learned to play at cards some time before Mr. W.'s death, which event left them as the only prospective support for the family.

When the season for farming was at hand, the neighbors began to watch to see how the boys would work. It was soon apparent that something was wrong, and one old neighbor by the name of Mr. R. made special search to find the trouble. He was not long in tracing it to the cards; and, after much contemplation, he decided upon the remedy, which he carried out as follows:

Upon meeting Thomas one day he said to him, "Thomas, I wish to buy a pack of cards—the kind you play with."

"I declare, Mr. R., I do not know where you could get them," was the reply of the boy.

"I want them very much; I will give a silver dollar for them," continued the old man.

Now, as this was about twice the value of a new pack, and as the cards owned by Thomas were somewhat worn, this was too much for him; and, after some hesitation, he replied, "Mr. R., I have a pack, somewhat soiled and worn, that I will sell you for that amount."



"Very well. I care nothing for their condition," said the old man, as he paid the boy and received the cards.

The boy was at first delighted with the trade; but upon seeing Mr. R. take out his pocket-knife and begin to cut the cards into small bits, he, in surprise, exclaimed, "Mr. R., what on earth do you mean? Did you not just pay me a dollar for those cards?"

"Yes, my boy, but these are the very cards I wanted; and the only purpose I had in buying them was to get them out of your possession. I have seen for some time what a disadvantage they were to you, and what a trouble to your mother. You know, Thomas, how poor I am, and how hard it is for me to earn money. Now, if I can make this sacrifice for you, can you not resolve to buy no more, and never to play them again?" By this time the boy was in tears; and while I do not know that he made a promise, he acted ever after as though he did; and when he had grown older he joined the church and has since lived an active and consistent member, always taking a lively interest in the welfare of the young, to whom he often relates the incident given above. W. H. GREER.

Paris, Tenn., Apr. 11, 1887.

Well done, friend G. I don't remember ever having mentioned the matter in print, but I always feel greatly worried and troubled whenever I discover that any boy, or girl either, is learning to play cards or is attending card-parties. When I started planting my basswood orchard a young couple rented a farm just across the road. They were a nice, bright young couple; but it saddened me to see that they thought it was the thing to have their young friends visit them and have card-parties; and card-playing got to be so much the order of the day that on one occasion these young friends wasted one bright summer forenoon in their card-playing. Our young farmer never hitched up his team, although the weather was beautiful, and the season at just such a point when every farmer, young and old, ought to be just jumping to get the work along, and his wife left her breakfast-table without even washing the dishes until it was dinner time. The next year they rented another farm, and they may be both in the county infirmary by this time, for aught I know; for it is a fact, that one little foolish bad habit like this may wreck a life. No wonder the boys did not prosper with their farmwork.

## HEADS OF GRAIN FROM DIFFERENT FIELDS.

WIDE FRAMES VS. CASES; CLEANER SECTIONS FROM THE FORMER.

**W**HILE surplus cases are under discussion I should like to put in a word for wide-frame single story cases. It is impossible in this locality to produce gilt-edge honey unless the sections are protected on all four sides.

When my honey is ready for market, the sections look almost as clean as when first put on the hives. This will not be true where cases are used without wide frames, except in rare instances. I know by experience that this is so; for wherever I have tried

to buy comb honey to sell again, unclean sections have been the one great drawback for me to do a successful business at it. A great many bee-keepers do not think this matter of having clean sections around their honey makes much difference; but I know this one thing has done a great deal toward lowering the prices of comb honey. Even storekeepers have fallen into this same rut. Go into almost any store in any town or village where honey is sold, and you will find it, nine times out of ten, just as it was taken from the hives. Wake up, brother bee-keepers! put your comb honey on the market looking neat and clean, in small clean packages, and you will find less trouble in selling at much better prices. I should like to ask if any one has ever tried the perforated zinc for separators.

W. H. SHIRLEY.

Mill Grove, Allegan Co., Mich., Mar. 22, 1887.

Very true, friend S.; but Dr. C. C. Miller claims that he can get just as clean or cleaner sections from the T super when the slatted honey-board is used, than from wide frames. If we are correct, he told us that the sections, when taken from the T super, take less cleaning than the sections when taken from the wide frames.

### BEES AND RAILROADS.

I have lately noticed in GLEANINGS several inquiries about keeping bees near a railway, mill, or factory, the idea prevailing that the noise and jar are prejudicial, especially in winter. I give my experience. I have kept bees for the past four years near a railway, not four rods distant, with a roller-process gristmill within four or five rods, and I can see no difference between my bees and my neighbors' as to wintering, etc. I believe the bees get used to the noise as we do. Every train through the night used to wake me, no matter how soundly I slept; but now I never hear them. The soil is a firm clay, and the road-bed is level and solid, with good rails; but there is a large traffic, and heavy trains. My bees, 60 colonies, are wintered on summer stands clamped in sawdust, but so the entrances are open. They are in fine condition.

E. J. BURGESS.

Tilbury Center, Ont., Can., Apr. 22, 1887.

### HOW TO GET RID OF A HYBRID COLONY.

Last summer, having a black hybrid colony of bees that I desired to get rid of, I took brood from them three or four times, each time leaving a comb of eggs. I used the brood to build up a nucleus of pure bees. When I found a choice pure colony superseding their queen I inserted one of their queen-cells in this black colony, after taking out their queen. As I was busy I did not again go to that colony for several days. When I did go I found a beautiful Italian queen. As I had no other place to use her I built up the colony with brood from other colonies that could spare it, the colony being now the size of a strong nucleus. When fixing up for winter I found them a fair colony; but as soon as set in winter quarters they began to die off. At the end of a month, as there were so many dead bees thrown out of the entrance, I marked them dead. I could not imagine what could be the matter with them, as most of the other colonies were so quiet, and were throwing out so few dead bees. As their hive was at the bottom of a pile of colonies, and in the center of the cellar, I could not very well examine them. After six weeks or so they seemed quiet — in death, as I supposed. But when set out




this spring I found a beautiful small Italian colony, large enough to build up by the time white clover blooms. Now, I wish to ask why those black bees died off so fast the fore part of winter. Was it not because their vitality was injured by caring for so much brood? They had a very vigorous queen, and I must have taken away eight or ten combs of capped brood. Mr. Axtell said it was a pity to kill any queen so productive, even if she was a black hybrid.

MRS. L. C. AXTELL.

Roseville, Ill., April, 1887.

I think you are doubtless correct in the matter. The black bees died off because they had been so severely taxed, and were perhaps prematurely old. The younger Italians doubtless took their place, and saved the colony from ruin.

#### ANOTHER WAY TO MAKE T TINS.

I have accidentally learned how to make the T tins, using the common folder found in every tin-shop. Although of no benefit to you with your machinery for making it of one piece of tin, it may prove of benefit to hundreds of others who may want a few tins quicker than they can get them of you. I was having some L tins made of light tin, for use not connected with bee culture, and our tinner suggested that if I wanted them stiffer he could fold one edge on  $\frac{1}{8}$  inch before they were folded into the L shape, which left them like  Fig. 1, and very much stronger; and by slipping two together I found I had quite a strong  Fig. 2, and no solder required to hold them—simply prick punch them in a few places, and they seem as firm as if made of one piece, and I think they are as strong (or a little stronger) than if made of one piece, as there are three thicknesses of tin at the top edge. To make them I would cut one-half of the tins 3-16 wider than the others, and fold one edge 3-16, and then  they are both of a width, as in Fig. 2; then fold each one into the L, and slip the tins together, and then you have a T, as in Fig. 3, and you will be surprised at its firmness. I trust that you will get the idea, and take it for what it is worth.

O. R. COE.

Windham, N. Y., March 25, 1887.

Thanks, friend C.; but we had already made them on this plan some time ago. It makes very nice stiff strong ones; but it is more work than to make them as we now do with special machinery. The idea may be of value to many of our readers.

#### HOW TO MAKE ROBBERS BECOME DISGUSTED WITH PILFERING.

I undertook to look through a hive a day or two ago, but got a job on hand by it, and had to close them up again quick, as another colony commenced robbing [them] with a will. I have noticed that some object to Italians on that account. I have but one colony of Italians, and can control them as far as their disposition to rob is concerned, much easier than some blacks I have. My Italians start often, but I can stop them with but little trouble so far. One colony of blacks, however, in particular, I have most trouble with. My plan for stopping may not be new; but as I am a new hand with bees it is new with me. I made a light frame, and covered it with wire cloth. It just fits in the portico of the hive, and extends out some six inches. When I

find the bees are robbing a hive I put it on until I have a considerable number of the robbers caught as they come out loaded. I then take it off, and, holding the open end down, step away a few feet from the hive, turn it up, and let the caged robbers fly out. I can then easily see where the most of them go. I next put my wire cage on the hive where the most of the robbers are, and leave it there some time, keeping any more from coming out. After those coming in worry around awhile, I slip it out, when the incoming bees pile in in a hurry. I put it on again, keeping the inmates in the hive some time. They get bothered so that they conclude to stay at home. I usually conquer them in a short time by this means. The Italians so far have been easily conquered in this way, but it takes longer to satisfy that one hive of blacks.

R. J. MATHEWS.

Riverton, Bolivar Co., Miss., Feb. 15, 1887.

The plan you suggest, friend M., is ingenious, and, so far as I know, it seems to be new. Most of the robbing is usually done by a few certain hives, and sometimes it is one hive that is keeping the whole apiary in an uproar. Another plan to determine which hive it is that is guilty is to sprinkle flour on the backs of the bees as they come out of the hive that is being robbed. While doing this, have an attendant watch the entrances of your different hives. Shutting up the robbers has been tried to some extent; and with a hive that has a portico on it, it may do very well; but in hot weather there is always danger of smothering, unless a large opening like a portico can be covered with wire cloth.

#### HONEY STOLEN.

On the night of the 17th of this month the building in which I had my honey stored was entered by thieves, and about 300 lbs. of honey stolen. There were 16 crates already put up and stamped with my name in two places; also another stamp in which to insert gross tare and net weight of honey, ready for market; the rest was in cases (Heddon), just as I had taken them off the hives, and some loose sections. They also jammed some sections in a box, etc., which they left in a greatly damaged condition. My loss is about \$35.00. The greater part consisted of white clover and basswood. I have always been free to give to my neighbors and friends ever since I have kept bees. I have given away several dollars' worth, and have the good will and respect of all of them so far as I know, having lived here 43 years. I think the parties who took it would steal my pocket-book, horses, or any other property. I write this, trusting that it may serve as a warning to the fraternity to keep a lookout. Any suggestions from you as to what steps I should take to trace it, or to prevent a like occurrence, will be thankfully received, as I have about 1500 lbs. left which they may try again, if they are successful this time.

WM. H. GRAVES.

Duncan, Ill., Nov. 25, 1886.

As a rule, friend G., I believe a crop of honey should be kept under lock and key—not only to keep the honey from being stolen, but to remove temptation, and to keep people honest. I think I should try pretty hard to find where such a quantity of honey went, if possible. The good of your community demands that the culprit be



brought to justice. As such a quantity must be disposed of sooner or later, it seems as if it would not be a very difficult matter to get hold of some clew to it.

DO KING-BIRDS SWALLOW THEIR VICTIMS? A FEW FACTS WHICH SEEM TO PROVE THAT THEY DO NOT.

In GLEANINGS I find, on page 295, a letter from L. Williams, in regard to the king-bird. My experience is quite different from his. My observations are, that it catches the bee and holds it in its beak and sucks the nectar from the bee, then drops it, and is ready for more. I have kept bees for several years, and there are times during the season when the bird is very troublesome. I have killed hundreds of them, and watched them closely, and I have taken the pains to open a large number of the birds, but I have never found a bee inside of the bird, and I have shot them and opened them instantly after seeing one with the bee in his beak. The king-bird is the only bird that I take pains to get out of my apiary, and I have sworn vengeance on him.

Bees in this part of the State this spring are not in first-class condition. Some have lost heavily. My loss is about 10 per cent, and I consider this a good showing. I have on hand at this writing, 115 stands. Some are light, but the majority are in very good condition, but are getting short of stores. We are having a cold, dry, backward spring.

W. A. WICKHAM.

Clermont, Iowa, April 21, 1887.

A KING-BIRD STUNG TO DEATH.

In GLEANINGS for April 15, page 295, L. Williams writes, among other things, "King-birds, and why queens disappear." Now, one of our children found a dead king-bird near our apiary, with about a dozen bee-stings in his breast and under his wings. Wife cut it open and examined its crop, but she found not the sign of a bee inside; but a few seeds and stones instead was all it contained.

J. R. WILSON.

Carlisle Springs, Pa., Apr. 19, 1887.

The two reports above seem to indicate that the birds do not swallow the bees so that they are found in their crops. The report in the A B C book, however, makes them out exceedingly guilty. It is possible, however, that they simply kill the bees and squeeze out the honey, throwing away the mashed-up bodies, so that none of these things would ever be found in their crops. I think the evidence is pretty conclusive that they do kill bees.

A FEW INTERESTING FACTS CONCERNING THAT CALIFORNIA SWARM FOUND IN THE OPEN AIR.

I observed in GLEANINGS, page 608, 1886, a cut of a swarm of bees in the branches of a tree, and a description of it as belonging to Southern California, and taken from a photograph sent you by a friend. I can give you the history of that swarm. In the summer of 1883 a swarm of hybrid bees clustered on the branches of a mulberry-tree standing on the grounds of O. W. Childs, in this city. The bees built three sheets of comb, nearly a foot long, the first season, and came through the rainy season in good order, though not protected in any way, except by the foliage of the tree in the summer. The next season they built the combs two feet long and added an additional comb on each side of the origi-

nal outer ones, filling the outer combs full of honey, as could be readily seen, as they were not more than twelve feet from the ground. Hundreds of people visited the place at different seasons of the year, to see the bees at work, and wonder how they could prosper so without any care or protection whatever. The tree stood near Mr. Childs' carriage-house, and during the colder days of the third year of their squatter sovereignty they began to trouble the horses occasionally, and I was requested by Mr. Childs to take the bees away, if I desired to do so. I accepted the offer; but before taking them down I had the photograph taken from which your cut was made. I was about making arrangements to have a cut of it made, with the intention of making a little money out of it; but your publication of it nipped it in the bud. I can't imagine how your friend could have secured a photograph of it, as I arranged with the photographer to have the exclusive control of all his work on that subject, and spent some ten dollars in money, besides time, in securing the picture, and all I made of it was the bees that Mr. Childs gave me. I took the bees out to my apiary in the San Fernando Mountains, and am working the stock for increase, and I believe I have some bees that will compare favorably with the best imported bees that I have seen. In the honey season they come quick and go quick, carry good loads, and are as prolific as the Holy Lands.

Los Angeles, Cal., Feb. 17, 1887. C. N. WILSON.

I am sorry, friend W., if there was any underhanded work about obtaining the photograph. Is it not possible this was taken from a photograph of another one strikingly like the one you have mentioned? It would be nothing strange if two colonies, similarly located, should resemble each other. We instructed the engravers to spare no expense in making a nice engraving, and they followed directions so completely that the cut cost us, we believe, some thirty or forty dollars. There might arise a question here as to the moral right of the picture. We were an innocent party in the transaction; but so is a man who buys stolen goods of any man; yet the law permits the rightful owner to take it when he can find it. Of course, you are welcome to your photograph back again, if you want it; but the next question is, Who is the lawful owner of the engraving that cost us so much money? We are quite ready to do what seems right in the matter.

HOUSE APIARIES.

Some will prefer and use house apiaries, and of course all will want the best. I have used mine another year (as described in GLEANINGS, page 744, 1885, and page 105, 1886.) I like it much, as it is so handy. I do all my extracting, transferring, and dividing, in it without any trouble from bees. I find they sting less. My house does not heat up as Mr. Clark says.

\$365 FOR SEED FROM 12 ACRES OF ALSIKE SOWN.

Farmers sow lots of alsike clover here. There is more than 100 acres sown within two miles of my apiary; one man took a load of alsike seed to Adrian, a short time ago, that brought him \$365, which grew on 12 acres, and that was not all of the crop. You are right as to the quality of the honey from it. I like it the best of any, and most of my customers the same. I obtained only about 600 lbs. of honey, principally comb honey. I had 11

swarms in the spring, mostly light. I had them all to transfer. I made them into 24, and doubled back to 14. I have bought 24. I have now 43. The 14 are in hives the same size as the new Heddon hive, but not closed end frames. The frames can be taken out when either side up. I like them much. I will explain them more fully some time.

Holloway, Mich.

H. L. HOXIE.

#### A SUGGESTION IN REGARD TO THE LOOSE T TINS.

Do not think I have not been an interested reader of the T-tin discussion, for I have used 60 of the T-tin supers inside of my S. hives. They work well in chaff hives too. I have become a convert to Dr. C. C. Miller's theory in regard to loose T tins. How well I shall like it in practice remains to be seen. There is one point about it which I have not seen in print. It allows an outward spread to the sides, which nailed tins do not allow. This would cause it to slip off easier. Tell the doctor to use a straight-edge, two, three, or four inches wide, under his mallet, and long enough to reach across his super when driving it down, instead of driving directly on the super, and I think he will be better pleased.

J. REYNOLDS.

Clinton, Kennebec Co., Me., Apr. 25, 1887.

#### SQUARE CANS VERSUS KEGS FOR SHIPPING.

When we ship in kegs, our kegs are thrown in free. Is that the case with the square cans, or do you get any pay for them? or are any returned, and at what expense by the express companies? We get the five-gallon kegs delivered here at 27 cts. each; 100 of your square-can cases, delivered here, would cost over 80 cts. each, or over 40 cts. for what we pay 27 cts. for in a keg. This difference would be quite an item out of the profits. I think the cans are very much the best, especially where we need to warm up candied or cold honey; but the extra expense is in the way. We use from 100 to 150 kegs here per year, and we could get up an order for 100 cases for this season's use if you can tell us of some plan to get back part of the expense. Oneida, Ill., Apr. 11, 1887.

W. M. KELLOGG.

We always charge for the square cans and boxes to hold them, friend K. I never heard of any one returning them. They are generally utilized for some other purpose, when the honey is taken out, I believe. I have never heard of kegs so cheap as you mention; but our experience has been that they are always more or less leaky. I do not know but that our foul brood came from purchasing honey in kegs, and then the kegs got to leaking, and the bees got to working on them.

#### HONEY-DEW AND PLANT-LOUSE NECTAR; THE SUBSTANCE AS FOUND IN THE EAST.

Not long since I came across this bit of history, which was of great interest to me, and may be, perhaps, to some of the readers of GLEANINGS:

"Forskal says, the caravans of Mecca bring honey from Arabia to Cairo, and that he has often seen honey flowing in the woods in Arabia. It would seem that this flowing honey was bee honey, and this fact illustrates the story of Jonathan. But there is also a vegetable honey that is very plentiful in the East. Burckhardt, speaking of the productions of the Ghor, or valley of the Jordan, says one of the most interesting productions of this place is the Beyrouk honey, as the Arabs call it. It was described to him as a juice dropping from the

leaves and twigs of a tree called 'gharrab,' of the size of an olive-tree, with leaves like those of the poplar, but somewhat broader. The honey collects on the leaves like dew, and is gathered from them, or from the ground under the tree."

It would seem that this vegetable honey is identical with our honey-dew, and the tree upon which it is found seems to be quite like our poplar (tulip), which is often infested with aphids. The secretion there is evidently more profuse than we know anything of, if it "drops from the leaves" and may be "gathered from the ground." In speaking of this very thing, I notice Cheshire says, "I saw falling in the sunlight, a thick, constant shower of minute drops, which were being expelled from the anal apertures and nectaries of the aphids infesting the leaves." I notice Cook distinguishes between the aphide nectar and the "real honey-dew which the leaves distill."

F. C. BLOUNT.

Lawndale, Ill., Feb. 25, 1887.

#### DANDELION.

Will you please favor me with answers to the following questions?

1. How many acres of dandelion does it take to keep one hundred colonies busy?

2. How late in May do bees usually work on dandelion in Ohio?

B. KENYON.

Oakland, Cal., Apr. 15, 1887.

Friend K., your question is hard to answer; but if an acre of dandelions would furnish as much honey as an acre of alsike, I would suggest estimating ten colonies to the acre. In that case you would want ten acres of dandelions. As cultivated dandelions are now receiving a good deal of attention, especially in the east, the time may come when we shall have ten acres in one locality; but where they are raised for greens, for table use, I believe they never let them come into bloom. I think bees work on dandelions about two weeks with us. They commence blooming heavily about the first of May.

#### EXPERIENCE WITH CYPRIANS.

My experience with Cyprians is so much like that of Mr. Abbott, as given on p. 303, that I am surprised that they should be recommended as superior or even equal to the Italians. My first experience with them, when they were merely a nucleus, was very satisfactory, and I was inclined to praise them on account of the prolificness of the queen; but as they increased in number, so the trouble in handling increased also, until they were nearly unmanageable. I put on a lot of empty combs and let them completely alone until almost winter: and, being so extremely ill tempered, they were not prepared as usual, and nearly died. However, they soon became as populous as ever, and were a source of annoyance another season, at the end of which the colony was requeened, and that with more difficulty than any previous manipulation. The principal reason that I kept them so long was on account of the prolificness of the queen; yet they did not gather any more honey than other colonies, I believe; and, not being accustomed to a veil, and seldom having one without holes, I dreaded to have anything to do with them. My last veil had a window in which broke out, and I have not yet sewed the hole shut.

CHRISTIAN WECKESSER.

Marshallville, O., Apr. 19, 1887.





Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows, viz.: *Sheer Off Silver Keys*, *The Giant-Killer*, or, *The Roby Family, Rescued from Egypt*, *Pilgrim's Progress*, and *Ten Nights in a Bar-Room*. We have also *Our Homes, Part I.*, and *Our Homes, Part II.* Besides the above books, you may have a photograph of our old house apiary, and a photograph of our own apiary, both taken a great many years ago. In the former is a picture of Novice, Blue Eyes, and Caddy, and a glimpse of Ernest. We have also some pretty little colored pictures of birds, fruits, flowers, etc., suitable for framing. You can have your choice of any one of the above pictures or look for every letter that gives us some valuable piece of information.

CONDUCTED BY ERNEST R. ROOT.

#### TRYING THE WINDMILL.

LET me see; I believe we left Jimmy and Sam starting off to school, lamenting because they had to go. They argued that nothing would be lost if they stayed out only *one* day. As they had been at school so steadily they knew that the final examinations could not possibly show it. I presume they did not think that final examinations were not the only things they went to school for. Mrs. Green could have told them that it is the every-day attention to regular duties that makes success in any department of life, and that boys who go to school every day in the year, when school keeps, unless sickness or something else of a serious nature prevents, are the boys who, when grown, make the most successful men, as a rule.

Our young mechanics, however, were not inclined to take a very philosophical view of things. They finally reached school and got into their seats just as the last tap of the bell announced that school had begun. They took their books out, laid them on the desks and tried to study, but their minds were on the grindstone and windmill. At recess, as usual, there was more speculation among the boys in regard to the windmill. Jake insinuated, once or twice, that "twouldn't last long;" but the two had so much confidence that it *would* last, that they did not pay much heed to the remarks, which savored strongly of Jake's jealous disposition.

After school was out, Jimmy and Sam hastened to their windmill. On their arrival home, Mrs. Green asked Sam if he would not go up town and get some tea—they were entirely out, and would need some for supper. Sam was not at all willing to comply with his mother's wishes, but said they could "get along without their tea." He meant no disrespect by it, but said it in such away that it was evident he thought the windmill was of vastly more

importance than tea, supper, or any thing else. Very fortunately for Sam, at this juncture Jimmy's little brother Ted happened over, and the boys very speedily made a bargain with him, by which the youngster was to receive a whole cent for getting the tea and bringing it home. The boys then started toward the scene of the windmill. It was not revolving as fast as it was in the morning, and it was squeaking. It was but the work of a few moments to get a little lard and apply it to the wooden bearing. It then revolved to the boys' great satisfaction. After a good deal of fussing they finally got their grindstone connected with the seat of power by means of the clothes-line. The grindstone immediately commenced revolving, and a more intensely pleased couple of boys you never saw. They found one trouble—that the clothes-line would keep running off; and in spite of all the two windmill-builders could do, they could not make it stay on. Just before supper Mr. Green was called upon to assist. He explained to them how the grindstone was "out of line" with the drive-wheel of the windmill. A very little adjustment fixed it so that the clothes-line held its position on the wheel. Mr. Green, as he witnessed the grindstone revolving, now expressed some feeling of satisfaction, and even became enthusiastic. Just at this moment his wife called out that supper was ready, but he was so intent that he begged they might be excused for just a few moments more. An ax was soon applied to the stone, to be ground, but the mill was hardly adequate to the work. On going to the barn window they discovered that the little breeze was dying down, as it is apt to do in the evening; but the boys said their machine was "doing well enough;" and that, when there was a good stiff breeze, they would have "lots of power."

That evening, after supper, Mr. Green offered to purchase for the boys a light-running saw-arbor in consideration of their making the windmill run successfully. A careful inspection of the price list from the Home of the Honey-Bees showed that a mandrel could be had for the small sum of \$2.25. Mr. Green told the boys that they would also need a couple of thin saws. The order for all was duly made out and sent. After Jimmy had gone home, and Sam was just crawling into bed, he thought he heard a noise in the back yard, out by the barn. It sounded as if some one were throwing stones. Sam poked his head out of the window, and listened; but every thing seemed perfectly quiet. Remembering his previous experience, and how the moon had made fun of him the night before, he crept back to bed, and knew no more till daylight.

The next morning, just as he was going toward the barn, Jimmy followed him up. On looking toward the windmill the two were thunderstruck, not to say amazed—two of the fans of their windmill had gone, and the tail was split! "Surely," said Sam, "there was no heavy wind last night—what could have done it?"

"I know," growled Jimmy; and his face began to flush with anger; it was the work

of that good-for-nothing lazy pup of a Jake. I just *know* he done it."

"That's so," said Sam. "We will fix him for that. What a mean trick that was! Just because we are successful in making it go, and were having so much pleasure from it, he has got to go and spoil it all."

Sam was so angry and hurt that tears began to trickle down his cheek. Just then Mr. Green made his appearance. On seeing the windmill, and on being told who the probable malicious perpetrator of the mischief was, he cautioned the boys, saying that they were not *sure* that Jake did do it—that they had no positive evidence of any one doing it.

"But," said Sam, "I feel pretty sure now, that I heard some one throwing stones just as I was going to bed last night. I concluded then that it was my imagination, and gave no further attention to it."

"Are you sure," said Mr. Green (seeming not to have heard Sam), "that you fastened those wings to the mill securely? Are you sure that you did not leave out some of the screws?"

Jimmy and Sam were both positive that they had made every thing very strong. Although Mr. Green in his own mind felt satisfied that some person very maliciously inclined had endeavored to vent his spite on the two boys, he tried to dissuade them from taking this view of things. The boys, on the contrary, felt confident, and they determined that they would sift the thing clear to its very depths. Said Jimmy to Sam, after Mr. Green had left them, "I tell you, Sam, we won't say any thing about this 'ere thing at school. We'll fix the mill as soon as we can this morning, and pretend that nuthin' unusual has happened. In the meantime we'll tell Frank the whole business, and let him ask around, kind o' still like; and if he finds out sure that it was Jake, we'll give him the worst old pummeling he ever had in his life."

"Yes," said Sam, "and every fellow at school will side in with us—won't they?"

*Continued June 15.*

## JUVENILE LETTER-BOX.

"A chiel's amang ye takin' notes;  
An' faith, he'll prent it."

### A YOUNG BEE-KEEPER.

I have a swarm of bees. They are in a thin-walled hive, packed with hay. Last summer we had 87 swarms of bees in the spring. We increased them to 100, and got 4500 lbs. of honey. My swarm made over 50 lbs. I am going to stay at home from school this summer to help take care of the bees. We have 40 strong swarms now, and 22 weak ones. All but mine and two other swarms are in chaff hives. A neighbor of ours was going to kill a swarm of bees for the honey (about 6 lbs.), and father gave him 6 lbs. of section honey for them. They are the strongest swarm in the yard now. In the fall we go to each hive and take out three frames from the strongest, and four or five from the weakest hives, and feed back the honey. The main dependence for honey here is white clover and basswood. When

we work with the bees in warm weather I do not wear any shoes or gloves. We made 32 new hives last winter, and I helped saw the boards and nail them up.

PRYER LINDLEY.

New Providence, Iowa, Apr. 2, 1887.

### BEEES AND CARP-PONDS.

We had about 40 stands of bees last spring. They gained up to about 80 stands. We extracted six or seven barrels of honey, and got a few hundred pounds of comb honey. Our bees wintered out-doors last winter, with two or three thicknesses of cloth over them. This spring there were 41 stands left. I think a person can get more extracted honey from strong swarms in large hives.

Summer before last we made a carp-pond. It is about ten rods long and four or five rods broad. It is 4½ feet deep at the south end, and gets shallow gradually to the north end. The next fall father put 16 German carp in the pond. In the spring we let the water out, and the fish were about three times as large as they were when they were put in. Last summer we made another pond. It is about 8 rods long and 4 or 5 rods broad. It is about 8 feet deep at the south end, and 4 at the north end. We put 46 young carp in our ponds last fall. We have not let the water out since last spring.

Falls City, Neb., May 1. ALBERT B. WILTSE.

### AN INCUBATOR; HOW IT WORKS, GRAPHICALLY DESCRIBED BY A LITTLE GIRL.

Pa has started poultry-keeping. He made two incubators, and filled them with eggs. The first one did not hatch, but the second one hatched well. You don't know how funny it looks to see chickens hatching in such a box; but I tell you it is a pretty sight. Pa made a brooder to put them in. I wish you could see them when they are eating. We have three good-sized boxes for them to eat in, and they fill them up too. They are the prettiest when they are eating, for they seem to be so well pleased. I like to see any thing mirthful, and I like to be so myself. The last two or three that hatched were cripples, and the other ones trampled them under foot. I could not bear to see the innocent little things hurt, so I wrapped them in a cloth, and once in a while I took them out and fed and watered them. I do not know whether I can raise them or not, but I will try my best. Pa is going to make a large brooder to put our little pets in. He has built a house to put them in, and I shall be glad of it too, for they are so noisy in the kitchen. They pick each other's eyes. Sometimes they go blind, and if we grease their eyes with tallow they come open again.

CLARA STREBY.

Paw Paw, W. Va., April 4, 1887.

### HOW PAPA CHASED AND CAUGHT A SWARM.

Once when pa was coming home in the afternoon he heard a swarm of bees. He started after them, and they came past the house where we live. Mamma heard them going by, and when she looked down the road she saw pa coming up as fast as he could come, his heels flying as high as his head. When he came to the house, mamma asked whose bees they were. Pa said, "They are mine if I get them," and off he started up through the town; and when he came to the square, one side of the street was lined with people, so he came back to the house and got a box, and put them in. It was a very big swarm. We got 50 lbs. of honey from the old swarm. Pa has the boxes about 6



inches from the ground. He has fixed cinders around the box. He thinks that sawdust is not very good, as it draws the ants, and cinders, if any thing, keep them away. Mamma and I tend to the bees while papa is away. CORA FRITZ, age 12.

Marshallville, O., Mar. 18, 1887.

#### A QUEEN-BEE IN A RUBBER BOOT.

My pa has 26 colonies of bees, and he lost only one through the winter. He wintered them in chaff hives, and on their summer stands. One time he was hiving a swarm, and when he came down to the house he pulled off his rubber boot and found the queen in it. She looked discouraged. We put her back in the hive. ARTHUR STILES.

Deposit, N. Y., Apr. 30, 1887.

It was a little remarkable that the queen should get into the rubber boot, and still more so that she wasn't killed, friend Arthur.

#### THE LITTLE BEE: COMPOSED BY A JUVENILE.

There is a little traveler  
Which travels many miles  
O'er many a wood and meadow,  
And sucks at flowers and spiles.

For he is called the honey-bee,  
Which travels many a day,  
And gathers nice sweet honey  
Through all the sunny May.

This bee works hard on basswood,  
From the bottom to the top,  
And works on buckwheat also,  
All o'er the farmer's crop.

And he works the summer long  
Through all the trees and dale;  
He can not work, however,  
Through wind and stormy gale.

This little traveler worketh  
Till his wings are worn away,  
And in the frosty weather  
This bee shall pass away.

O. A. BURNETT, age 14.

#### ALICE'S POETRY.

I have seen in your journal that any little girl who would write a verse or line about bees would, in return, receive a book. Here I will write a little verse about bees.

Oh the bee, the pretty bee!  
As it flies through the fields,  
Sipping honey from all the flowers,  
And it never troubles any one as long as it is left to itself;  
But if it is bothered, then look out for an angry blow.

ALICE E.

Well, Alice, I am afraid there is not much real poetry in *your* lines. Your sentiment is good, and you started out very well; but somehow in the rest of the lines you forget all about rhyme or meter. If you do not know what rhyme or meter is, ask your teacher.

#### HATTIE'S LETTER.

I wrote to you in 1884, and I saw my letter in print. It did me so much good, I believe I will write again. I think that a great many people take your good book. After I wrote before, I got more letters from bee-men; and the funniest of all was a letter saying, "To Hattie Hall, Esquire." Mamma and papa laughed heartily. I always imagined I should like to live with you, because you are so much like a preacher. My desire is to live with a preacher. We have a good Sunday-school and prayer-meeting here every Sunday. We have a Baptist and Methodist church here. I have two brothers and three sisters. My two oldest sisters are off at school. HATTIE HALL, age 13.

Sparta, Miss., March 24, 1887.

#### HOW ALICE HIVED A SWARM.

My aunt was sick, and papa and mamma went to see her. While they were gone the bees swarmed and settled on a peach-tree. I thought I must hive

them, or they would be lost. I took a little table and set it under them and went into papa's work-house and got a hive and put it on the table and got some water and sprinkled on them. I jarred the limb so as to get them on the table, and when they were on the table I sprinkled some water on them, and they went in nicely. I got but one sting, and that was between my eyes. It caused my face to swell so that my eyes were nearly closed. Papa said I did well for the first time.

Buntyn, Tenn.

ALICE NORRIS.

#### FEEDING BEES WATER BY THE AID OF CORNCOBBS. JAPANESE BUCKWHEAT.

Papa's bees are doing well. He received some buckwheat from you yesterday, and he thinks he will have him a nice patch of it for his bees. Those buckwheat-seeds looked just like beechnuts in Tennessee, only they are a great deal smaller. I have a pretty rose-bush in papa's bee-yard; and when I go to get a rose a bee stings me, and I hardly ever get a rose for I had rather do without one than to get a sting. It has not rained here in a long time. The bees are going everywhere to get water. Papa fixed a trough and put cobs in it to hold water for them cobs hold water better than any thing else that we know of. We have to fill it up every day. I have written two letters before this, and got a book, but I don't expect to get another one this time, for I don't know any thing new.

MATTIE F. DILLEHAY, age 13.

Milford, Texas, April 6, 1887.

#### A COLONY THAT TRIED TO SWARM ON FOURTEEN CONSECUTIVE DAYS.

Pa has 110 stands of bees in the cellar. He sold about half of them at our sale last fall, and keeps them till April 15th. Last summer pa had one swarm that came out nearly every day for fourteen days. He kept the queen-excluder on the entrance. He wanted to find out if the bees would finally kill their mother for not going along with them, but they did not. He finally hived them with their queen, and then they went to work in earnest. All the fourteen days they were swarming they gathered but little honey. CLINTY BRUBAKER.

Maxwell, Story Co., Ia., March 29, 1887.

Thanks, friend Clinty, for so carefully giving the results of your father's experiments. The incident which you give is most remarkable, and I wonder that the bees did not become disgusted with their queen and kill her. I think, however, that, as a general rule, where the perforated metal is kept over the entrance, and the bees swarm two or three times in succession without bringing the queen with them, they will finally kill her and raise another in her stead. After the swarm has come out once, I believe I would catch the queen and place her among the flying bees before the swarm returns, and you can then hive them where you wish.

#### BEES IN CELLAR CONSUMING LESS STORES; RUTH'S BIG COLONY.

We had 23 colonies at the beginning of winter, and we have lost only two so far. For the first time we wintered four colonies in our cellar, which has a cement bottom. I helped papa carry them out of the cellar yesterday morning; and when he opened one hive there was but an ounce of honey in the frames, and no brood or eggs. At noon, when he looked into the hive, the queen had begun

to lay. Excepting this one colony, those that were in the cellar were stronger colonies, and had not consumed so much honey as those out of doors. Last summer, during swarming season, a swarm came out and alighted on a currant-bush. While papa was getting ready, another swarm came to the same place; and, while putting them in the hive, a third swarm came and went in with them, making such a large swarm that papa had to put on another story, and could hardly carry it to its place on a wheelbarrow.

Hineckley, Ohio.

RUTH WAITE.

That bees in cellar do consume less stores than those out of doors is generally admitted. It is not always the case, however, that cellar-wintered colonies come out stronger.—Those three swarms must indeed have made a rousing big colony.

#### BEING TRUE TO OUR NAMES.

Pa says his first number of GLEANINGS and the "first boy" came to his house about the same time, so I was named after you. I will try to live so as to be worthy of your name. I have never used any profane language, and never will, and wish all little boys would try to do the same. I never tell my ma that I "won't," or "don't want to," when she asks me to do any thing, for she is kind to me, and I intend to be obedient, and help her all I can.

I have split and corded ten cords of wood in the last two weeks, besides having lots of time to play. Roy Gift helped me two half-days. Ma said she would get me a new illustrated Bible as soon as I got the New Testament read through. I mean to read four chapters every day, but once in a while I forget it. The bees are in the cellar yet. Pa says there is only one colony dead out of 130. He is anxious for the weather to get warm, so there will be something for them to do, then he will put them out. He says he has learned by sad experience that bee-keepers generally put their bees out too early in the spring for this climate.

We got 40 eggs from 67 pullets yesterday. They will lay about 90 dozen this month, and did lay about 60 dozen last month. I heard pa say he thought that bees that were about one-half Italian and one-half black, and chickens half Brown Leghorn and half Plymouth Rock, were the best bees and chickens for business. ERNEST GILL, age 10.

Star, Vernon Co., Wis., Mar. 27, 1887.

You must indeed be a dutiful son. If the name "Ernest" implies all you think it does, and all you live up to, I must confess that I have not been as "Ernest" as you. I would that all our little juveniles might try to live as you do. The boy who makes the Bible his companion, as I think you do, could not well be otherwise than "earnest" in the sense which you give to it.—In regard to taking bees out of the cellar too early in the spring, I would say that your papa has come to the very same conclusion that Dr. Miller has.

#### HOW CHARLIE MADE TWO DEAD COLONIES COME TO LIFE.

My father has 36 swarms of bees now. I have 3. The first one of my swarms was short of stores in the fall, so I watched them. One morning I went out and they were dead. I brought them in the house and told mother to make some honey syrup. She took some candied honey and a little water, and put it on the stove till the honey was all dissolved.

I then took it outdoors to cool a little. When it was about as warm as new milk I opened the hive, took out the combs with the dead bees, and poured the warm syrup right on the bees and combs, put them back in the hive and shut it up, nailed some wire cloth over the entrance, and set them down by the fireplace. In less than an hour they were cutting at the wires, and had raised a great hum. I then put them upstairs, and gave them a chunk of honey that came out of a bee-tree which we found in the mountains, this being January 10, 1887. Jan. 15th I found eggs and small larvæ. Jan. 20th I put them back on their summer stand. March 1st they commenced bringing in pollen, and they are doing nicely.

#### A DISABLED QUEEN THAT IS STILL A GOOD LAYER.

I have another swarm of bees that I bought of my father, Feb. 1, 1887, he supposing they were dead. I told him I would give 25 cents for the bees and queen. He said, "All right." But they were not dead. I transferred them into one of my hives. The queen has both of her hind legs and her left middle leg injured in some way, so they are of no use to her; but she is one of the best layers I ever saw.

In the fall I had 5 swarms of bees, but now I have 3. I had one lose its queen, so I put 2 swarms into 1.

We have flowers here the last of February, generally; but this season there were no flowers till March first.

The apple-trees are in bloom. The apple-blossoms came out April 5th; peach-blossoms, April 10th; strawberry, April 10th. All the summer birds are here but orioles and wild canaries. Honey is selling at 12½ cts., extracted; comb, 15 cts.

If you wish, I will send cuts of my hive and my way of feeding out of one hive into another kind of hive.

CHARLIE H. STEWART.

Altona, Col., April 17, 1887.

Many thanks, friend Charlie. You have unconsciously struck upon the same point suggested by Wm. C. Greer, in the Juvenile Department, page 311. I would advise you to carefully read the answer, and see if it does not confirm some of your experiments. The point you bring out is a good one; that is, we must not be too hasty in pronouncing a colony dead, even though it has every appearance of being so. You seem to have been a little wiser than your father, but it is not very often that boys have more wisdom, though they sometimes think they have. Twenty-five cents is pretty cheap for a whole colony of bees, is it not, even if they are apparently dead? but twenty-five cents would be a rather dear price if you found that it was impossible to revive the bees. Another thing, Charlie: You have given us proof that a queen with both of her hind legs disabled, and a middle leg besides, is a good layer. I am glad of this, for sometimes the legs of queens get injured in transit through the mails, and customers are inclined to kill them without even giving them a trial. Don't discard any queen, friends, until you know by actual test that she can not do good work.

#### ANOTHER JUVENILE INVESTMENT IN BEES.—HOW \$1.50 WAS MADE TO BRING \$8.00.

A year ago last summer I picked berries. Papa paid me the same for picking that he did other boys and girls, so in the fall he said I had better invest



part of my money in bees. He said he would sell me a nucleus for \$1.50. I put it in the cellar myself, and in the spring it was a nice little swarm. Papa gave me a hive, and hung the frames in it, and put in the division-board to shut them down on just as little space as they could occupy. I put a feeder on top, filled with extracted honey. When they increased so they needed more room I put in a frame of foundation. By the time the honey-season commenced I had a full swarm. I then put on the sections. When one set was full I took them off and put on another set. My racks hold two sections, which weigh  $1\frac{1}{4}$  lbs. each. I sold my honey to papa for \$8.00. He has 440 stands. My brothers Willie and Ernest will each tend an apiary in the country this summer, and I will help papa in the home apiary. I cage queens for papa, and help take off honey, and take it to the honey-house. I am not going to let mine swarm if I can help it, for it will make more honey if it does not.

I am 11 years old, but I started in the bee-business when I was 9 years old. RALPH BALDWIN.  
Independence, Mo., Mar. 31, 1887.

Well done, friend Ralph. You started from the very bottom, without even *borrowing* money. By the conditions of the promise on page 226, I think you are fully entitled to the chromo, so we send you one. We will say again, that to all boys and girls who will do as well with *their own* bees, a chromo is waiting. Let us hear what you have done.

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## TOBACCO COLUMN.

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PROF. COOK JOINS US IN URGING WARFARE AGAINST TOBACCO.

**E**DITOR GLEANINGS:—I wish to express my pleasure and gratification in view of the statistics which D. E. Brubaker gives in last GLEANINGS, p. 313. Just to think of 446—and, of course, as you say, that is but a fraction of the whole number—of permanently reformed smokers, or users of tobacco. Just to think of the useless waste saved; of dirty men made clean; of suffering households made happy; of disease-germs uprooted; of a great public nuisance in part, at least, abated! To be the instrument of such a blessed consummation is a glory to a man, and I congratulate you most heartily. When we think that more than half a billion of dollars is spent each year by our countrymen in not only a useless but a pernicious habit, and often when these very dollars are imperatively needed to give a family the bare necessities of life, no wonder we envy you your good and blessed work. When we consider how many men are steeped in the not only foul but seriously poisonous emanations of tobacco smoke, whose very presence makes rank the air of car or hall, what wonder we wish we had your power to convince men that there is a better way. As we remember the good wives and mothers who daily pray that their children may be kept from a dreaded habit in spite of inherited tendencies and degrading example, we pray that we too may be helpful to men, and may also aid to stay or cure the evil habit. When we note dread and may be fatal disease, the direct offspring of the tobacco habit, claiming victims each year, and these victims so enervated that

they are powerless to say no, when they know that "no" means life and "yes" death, what wonder that we are enthusiastic in our admiration of this part of your work.

We are having frightful examples each year of persons—especially young persons—who are so diseased from excessive use of tobacco, that physicians direct the total cessation of the use of tobacco as the only hope of cure. Often such persons are so enslaved, or have so lost their will power, that to stop is impossible—at least practically, for they do not stop. I have known several such cases, and yet the great army of boys—mere nurselings—that is constantly being recruited is almost disheartening.

Mrs. Axtell touches a still more serious aspect of this tobacco problem, when she intimates that the use of tobacco opens the door to the saloon. Oh, yes! we may even go further; these two join to lead the unwary to the third great evil which is sapping the very virtue of our people, and whose end is death. Said an honored State Senator to me a few years ago: "I am glad you work to keep our boys from the use of tobacco," though he used it himself. Said he, "Tobacco conducts to the saloon, and the saloon points to the way that leads down to death." Can any one doubt but that his suggestion was founded in fact? Many stop at the pipe; many halt at the saloon; many take the last fatal step, and leave virtue and manhood behind. Go on, Mr. Editor, in your effort to check the evil in the bud, and may God speed the work.

A. J. COOK.  
Agricultural College, Mich., Apr. 27, 1887.

I have used tobacco for three years. I quit about three months ago. Will you please send me a smoker? If I ever use tobacco again I will pay for the smoker.

ALFRED S. VANSYOC.  
Indianola, Iowa, March 16, 1887.

I have used tobacco for nearly 25 years, and have left off its use, and will never touch, taste, or handle it again; and if I do ever use it again I will pay for the smoker.

MILO GEORGE.  
Bowling Green, Ohio.

I hereby promise not to use any tobacco in any form in the future, if you will send me a smoker. If I break my pledge I am to pay you for the smoker. I was a smoker of cigars.

S. H. ZEIGLER.  
Mulberry, Pa., March 29, 1887.

I wrote you a letter some time ago, and inclosed 20 c. to pay the postage on a smoker for Mr. Braun, of Kilmanagh. He promises not to use tobacco again; and if he does, I will pay you for the smoker.

F. C. SMITH.  
Kilmanagh, Mich., March 25, 1887.

I understand you offer to any man, who will stop using tobacco, a smoker. I will comply with those terms. I make the regular promise, that, if I ever commence using the weed again, I will pay you for the smoker.

A. WILBUR.  
Scribner, Neb., March 21, 1887.

I have used tobacco for 15 years; but in February last my father-in-law and I resolved to quit using tobacco. If I am entitled to a smoker, send it along; and if I ever use the weed again I will pay you for the smoker.

J. C. HALL.  
West Liberty, Iowa, Mar. 30, 1887.

I have used tobacco for eight years, and I hereby pledge myself to the usual promise.

Prattville, N. Y., Apr. 10, 1887. C. E. CONINE.

I have quit the use of tobacco in all its forms. Please send me the smoker; and if I commence again I will send you the full price for it.

S. W. DUCKWORTH.

Ritchie C. H., W. Va., March 18, 1887.

Having quit the use of tobacco in all of its forms, I wish to pledge myself never to use it again. Please send me a bee-smoker; and if I ever use tobacco again I faithfully promise to pay you for it.

England, Pa., Mar. 11, 1887. S. B. POST.

I am glad to say I have stopped the use of tobacco entirely, and hope nothing will make me take to using it again. If you think me entitled to a smoker, please send me one; and if I return to smoking I will send you the price for the same.

Abbeville, S. C., March 13, 1887. D. W. THOMAS.

I have recently quit the use of tobacco, partly through the influence of GLEANINGS and partly because I found it to be injurious to me. If you think I am worthy of a smoker, send me one and I will pay for it if I ever use tobacco again.

JOHN FRANKLIN.

Round Rock, Texas, March 14, 1887.

My father quit the use of tobacco after using it many years. The last time I saw him smoking was some time last summer. If you send him a smoker he will pay you for it if he ever uses tobacco again. He is 76 years old, and has 15 swarms of bees.

J. S. NORTON.

West Ferndale, Wash. T., Mar. 8, 1887.

Miss V. M. Smith, through the influence of GLEANINGS, has been induced to give up the use of tobacco, and requests me to ask you to send her a smoker, for which she agrees to pay if she uses tobacco again in any form.

D. W. MOSS.

San Augustine, Texas, Mar. 29, 1887.

#### A CHEWER FOR 45 YEARS.

I have been chewing for about forty-five years. Last November, about the 18th, I quit chewing. If you think you can send me a smoker, I shall be much obliged to you; and if I commence chewing again, I will pay you full price for it.

Leetonia, O., Feb. 21, 1887. J. BRINKER.

I am a reader of GLEANINGS. I have been a chewer of tobacco almost from childhood. I have made a solemn vow never to use it again. I have bees; and if you think I am entitled to a smoker, please send it, and I pledge myself to you that, if I ever use tobacco in any form again, I will send you the price of the smoker.

J. B. MOUR.

Lafayette, La., March 12, 1887.

My son-in-law has used tobacco 24 years, and I have tried to get him to stop its use, but all in vain. I saw in GLEANINGS that you were giving smokers as a premium where they would abstain from its use. I went at him again finally, and have succeeded in getting him to promise, if you would send him a smoker, he would stop its use. He hasn't used any in 3 or 4 weeks. If he ever uses it again he says he will pay for the smoker; and if he doesn't, I will if I am living. But he is an honest man, and will pay it.

R. H. ALLEN.

St. Louis, Mich., Feb. 14, 1887.

#### AN INJURY TO THE HEALTH.

I have been in the habit of smoking, and do believe it to be an injury to my health. If you feel willing to send me a smoker by mail I will give you my word that I will not use tobacco any longer in any way. I am not saying this merely to get a smoker free, but I mean all I say.

Cleveland, Ga., Feb. 12, 1887. J. C. KENIMER.

#### A BINDING PLEDGE BETWEEN HUSBAND AND WIFE.

I have been a reader of GLEANINGS for seven years, and have read every word of every number that I have received. I have been trying to get my consent to quit using tobacco ever since I read your first number. I have been praying over the matter, so the other day my good wife said to me, that if I would quit the use of tobacco she would not use any more snuff, so I accepted her proposition, and expect, by the help of God, to keep my promise. Now, if you are willing to send me a smoker you can do so; and if I ever commence the use of tobacco again I will pay you for it.

Covington, Ga., March 21, 1887. J. F. McCORD.

#### ABRUPTLY QUIT.

I see that you offer a smoker as a premium to any one who will abandon the use of tobacco. I have been a slave to the use of tobacco for 15 years, and it is injurious to my health. Your offer has induced me to for ever abandon and abruptly quit the use of tobacco in any form. Now, as I am beginning to raise bees to some extent you will please send me a smoker; and I solemnly promise that, if I ever take up the use of tobacco again I will pay you the full price for the smoker. I am responsible for what I say.

B. G. LUTTRELL.

Luttrell, Ala., Mar. 1, 1887.

#### QUIT PAYING THE NATIONAL DEBT BY GIVING UP TOBACCO.

I take great interest in reading GLEANINGS. I have read and re-read your A B C book until I have, it almost learned by heart; but I have had bad luck with bees this past winter. I lost five out of twelve.

I think that I am entitled to a smoker, because I was one myself for 27 years. I smoked in that time about 700 lbs. of tobacco, and the U. S. internal revenue on the same has been quite an item in the reduction of the national debt. I would as soon go to the gallows as to commence smoking again, as I find that I feel much better than I did when I smoked the filthy weed.

S. W. TAYLOR.

Harveyville, Pa., April 5, 1887.

#### A LETTER FROM ONE WHO HAS INDUCED THREE OF HIS FRIENDS TO GIVE UP TOBACCO.

I have a young friend who is becoming somewhat interested in bee-keeping, and I told him you would give any one a smoker who would quit using tobacco, and promise not to use it again. He says he will promise to quit, and will not use it any more; and if he should he will pay for the smoker. Please send him one, and I will vouch for him. He makes the third one who, with your help, I have induced to quit using the vile weed, and they have so far stuck to their promise. I am always on the watch to induce others to quit using whisky and tobacco, as I think they are two of the worst habits a man can contract.

C. W. PLENT.

Stanton, Ala., March 21, 1887.

Many thanks, friend P., for so kindly helping along the work in the Tobacco Column.



## OUR HOMES.

Blessed are the pure in heart; for they shall see God.—MATT. 5: 8.

**B**EFORE I tell you of my very pleasant visit to Professor Cook and his family, I want to say that it has been characteristic of the professor to rebuke gently but firmly every thing in the line of which I talked to you in *Our Neighbors*, in the last issue. The first time I ever met Prof. Cook, or, at least, the first time I ever had a chance to have any confidential talk with him, was when we visited an old bee-keeper in the neighborhood of the Michigan Agricultural College. In telling something, I related a common phrase of expression. He stopped right in the road to give emphasis to his remark, and asked me if it would not be better to forbear making such speeches.

"But," said I, "it is the truth, is it not?"

His reply was something like this:

"Mr. Root, it may be true; but even if it is, I don't believe it is best to speak it. If we do every thing in our power to encourage the idea that the world is not depraved and low-minded, will it not help the world to be better?"

His talk was, in effect, something like this: If you tell a boy he is a thief, and that you don't expect any thing better of him than a thievish disposition, you help on in that very line. If you tell him you have confidence in his word, and are not afraid to trust him (within the bounds of reason, of course), is it not true that the chances are greatly in favor of helping the boy to be a good deal better boy? Well, a great many times when we shock people by telling something very bad, we reply, "Why, is it not true?"

Now, I heartily agree with Prof. Cook, that the truth in such cases had better not be told. When I sat in the hotel and listened to the indecent talk of those two young men, my mind reverted to Prof. Cook, and I wished that he were there with his weight and influence, and especially his kind, genial way toward sinful humanity, to rebuke these boys in a way that would do them good. May be he would have had to give up the task and take another room as I did; but I do know, however, that he has all his life been in the habit of rebuking faithfully and fearlessly friends and foes alike, whenever they need reproving and rebuking.

I hope the professor will excuse me for relating one little circumstance; and if I don't get it just as it actually occurred, it will be near enough to carry the moral with it.

In his younger days he was once called upon to ride in a stage-coach with quite a lot of distinguished men—members of Congress, and others who stood high in office and in places of trust and intelligence. They began indulging in impure jokes and talk, of which they should have been ashamed. He bore it for a time, but finally ventured a remonstrance. There were so many of them, however (and he was then only a boy), that they tried to turn the joke

back on him. He finally told them firmly that he would stop the driver and get out unless they would stop the kind of talk they had been indulging in. One of them remarked, "If the boy can't stand it, let him get out." If I am correct, the driver was told to stop. When he asked what the matter was, our young college student told him he wished to get out and go on afoot, unless he could have a guarantee from the gentlemen present that the kind of talk they had been indulging in should be stopped. By this time some of the better ones began to come to their senses; and one who had weight and influence declared that the boy was right, and desired the driver to go on, saying that he himself would guarantee that there should be nothing more improper or out of place.

Friend Cook, in speaking of it, said that, when he was a boy at home on the farm, one of the rules that he had laid down himself was to say nothing or do nothing under any circumstances that he would not say or do in the presence of his mother; and when he became a married man, and had a queen of his own to rule his household he decided that nothing should pass his lips in her absence that he would not say in her presence. And in all my acquaintance with him I can not remember that I ever heard a speech or word that he would hesitate to speak, were she or their two children present.

I have spoken to you many times lately, dear friends, about being acquainted with people, and it has lately occurred to me there is many times great need that fathers and mothers should be acquainted with their own children. Well, the acquaintanceship with different members of the family in Prof. Cook's household is closer and warmer than in any other family relationship I ever saw before. Not only are the husband and wife one in every sense of the word, but the children, Bertie and Katie, are one with father and mother. Papa and mamma share all their plans and pleasures and tasks, and the children, too, know all about papa's and mamma's work. Young as they are (about ten and twelve, if I remember rightly) they are prepared to understand and commend almost any able effort their father may make in his literary work. They share with him most fully in his labors for the uplifting of the people. The sentiment of this entire household seems to be a hungering and thirsting after righteousness; and their lives seem to be a prayer that God's kingdom may come, and his will be done on earth as it is in heaven.

In the *Home Papers* of a month ago I spoke about letting the children get acquainted with the neighbors' children, even if the latter were not all they ought to be, and one of the friends has taken me to task for so doing. I did not talk with Prof. Cook directly in regard to this matter, but I am pretty sure he agrees with me in the effort to have our children brought up so as to be pure in heart, according to the text at the head of this talk. I think we should be careful about going to such extremes that they know nothing of the evil that is in the world; yet I would by no means go so far as

some recommend, and push the children needlessly into scenes of vice and sin, but I would endeavor to so fortify them in the home circle that they may go safely wherever it may be convenient to have a child go. There are parents here in Medina who have kept their children away from school because of the bad boys and the bad talk they learned at school. Now, I think they made a mistake. Sooner or later every boy and girl is obliged to meet more or less evil. I should say, let them meet it when it can not well be avoided; but prepare them for it beforehand, and strengthen them during the trial. Tell them of the responsibilities that rest upon Christian people; tell them of the great harvest, and of the comparatively few laborers. Pray for them as Christ prayed for his own when he said:

I pray not that thou shouldst take them out of the world, but that thou shouldst keep them from the evil.—JOHN 17:15.

Bertie and Katie are by no means ignorant of the great problems that lie before us as a people and as a nation. On our way (from Owosso to Lausling where Prof. Cook's farm and sugar-bush are), something occurred to illustrate this. We were riding on the cars, and a drunken man took a seat right back of Mrs. Cook. As the cars were crowded, our little band was somewhat separated. The drunken man commenced to utter oaths and blasphemy; and as no one noticed him he finally proceeded to obscenity. Prof. Cook has decided, as I have, that it is useless to talk to an intoxicated man. You might as well try to remonstrate or reason with the father of evil himself. Mrs. Cook was obliged to take another seat. This crowded a little upon a couple of fast young men. They occupied one seat while their overcoats and luggage were in the one opposite. In answer to Prof. Cook's inquiry, they replied that the seat containing their luggage was occupied, giving him to understand that somebody else had the seat who would be in presently. I saw their trick, however, and so did the professor.

"My friends," said he, "you are entitled to the seat you are sitting on, but not to this other one. I know my rights; and if you mean it is occupied because it contains your luggage, I shall have to ask you to vacate it."

He said this firmly, but with perfect kindness. One of them finally rose up, with the remark, "Well, now look here, friend; if you won't get into a passion we will give you *both* seats."

The remark about getting into a passion was entirely uncalled for, as Prof. Cook did not show the least trace of disturbance of any kind. While he calmly assured them he never got into a passion at all, one of them remarked:

"We will take our cigars, and go into the smoking-car; and when we have smoked three or four cigars apiece, and have had a couple of glasses of brandy, we shall be in just the trim to deliver a prohibition lecture to these people, if they want one."

As he spoke I caught sight of a flask of some kind of liquor in the side pocket of one of the overcoats. The young men by some

means correctly inferred that our little party were of the class who accept the promise in our text, to those who are pure in heart, pure in speech, and pure in their habits. The last speaker, thinking he had said a funny thing that ought to be applauded, turned to me as he finished the speech. I replied, "My friend, I come from the State of Ohio. Now, is it really true that up here in Michigan those who give lectures on prohibition first fortify themselves with whisky and tobacco?" He was, for the time, evidently taken back a little, but then replied, "Well, stranger, that is just about what it amounts to."

I felt obliged to him for having coupled tobacco and whisky so closely together. Is there not something significant about it? And, again, our gibbering, blear-eyed neighbor who was too drunk to be decent, on the seat adjoining, furnished us another link. Obscenity and filthiness belong to whisky; and so it transpires that tobacco ultimately leads not only to filth in habit, but to filth in thought.

Would you like to know something about the way this little household is carried on? I presume friend Cook will excuse me if I tell a little about their daily home life. I know he will when he considers that I do it only that it may give suggestions and possible helps to other homes. The morning service is shared by all. Each one has a Bible as well as a hymn-book. By the way, I do think a morning hymn is a grand thing to commence the labors of the day. Well, the Bibles and Testaments at Prof. Cook's were German in one column and English in the column right beside it, verse to verse. All four members of the family read a verse first in English and then in German; and I was astonished to hear ten-year-old Katie give the German accent in her childish voice as easily, almost, as if it had been her mother-tongue. Although she is younger than her brother, her womanly wit grasps a good many things quicker than he does. This confirms me in my idea of woman's fitness for business. Well, why do you suppose the whole family are learning German? I will tell you. Prof. Cook has taught regularly in the college for something like twenty years, without respite or rest, except his vacations during the winter; and even during these winter vacations he works harder, a good deal of the time, at our agricultural colleges in Ohio, New York, Wisconsin, and other States. They are talking of having, in a year or two, a two-years' vacation, and they are going to travel in Germany and other countries of the Old World. The children are as enthusiastic about the vacation in Germany as are the father and mother, and this is why they are pitching into German with such energy. You must not think that this boy and girl are little men and women, for they are just as childlike, and just as full of childish pranks, as any other children, and they sometimes beg to be excused from their lessons and work. Mamma and papa both have to remonstrate and urge, occasionally, just as they do in all homes; but notwithstanding all this it was a rare treat to me to find children of their age so fully posted in re-



gard to general matters of life as were these two. A little picture on the sideboard shows the face of one that was in this household, whom God has called away; but the whole atmosphere of this home is a trust in God, and a reverence and respect for the great Creator of this vast universe, that has given me a lift upward as well as onward that I trust I shall not soon forget.

A great problem lies before us—How shall we manage to have the children of our homes pure in heart? How shall we contrive to have them grow up pure in heart? In the first place, my friend, do as Josh Billings recommended—walk in the path yourself in which you would have your children walk. When you are tempted to be selfish, when you are tempted to relate an impure joke, when you are tempted to do something in the dark that you would not do in broad daylight, consider, first, “If the little ones of my home were right before me, would I do this?” You may be surprised somewhat, my friends, but the above plan has been of great help to me indeed. I once labored about an hour with an intemperate man. He had always been a drinking man, and he declared his purpose of continuing so. When I had got as far as the door, thinking I should have to give up the task, I turned to him once more. “My friend, you say you have been drinking intoxicating liquor all your life, and you propose to go ahead so long as God lets you live—drinking when you please and all you please.”

He frankly declared I had stated just about the truth of it.

“Well,” said I, “friend B—, do you desire to have your boys grow up in just that way?”

He did not answer. I repeated it with more emphasis. When forced to reply, he said, with an evident softening in his tone, “No, Mr. Root, I do not want my boys to grow up to be drinking men.”

Now, then, whatsoever you would that your own boys should be and do, do just that yourself. Set a good example before them, not only when their eyes are upon you, but in the darkness of the night, when no man is near. Do that which you would do were those inquisitive little eyes present; and in the deep recesses of your own heart let no thought get much of a lodgingplace that you would be ashamed to have the little ones look upon. I know it is a hard task; but I know, my friends, it can be done, through the grace of Christ Jesus.

One more word about keeping our children from contamination and evil. We can not get good vegetable plants by greenhouse culture. They must be put outdoors, and gradually get accustomed to the winds and frosts. They must be hardened by exposure before they can be of service. If our children are going to be of use to the world, they must know the world. At one time the schools in Medina were so exceedingly bad that it became a question as to whether it were wise to send the small children. Even our boy Ernest learned to swear before we knew it. The boy he was most in the habit of playing with took the name of God in

vain almost constantly. What was to be done? This was even before I professed to be a Christian. Ernest's mother had to bear the load all alone. She went to her Bible for help; she took the boy into her room and there alone talked with him. She followed him with her prayers when he was absent, and she questioned him about his associates and pastimes and amusements, when he got home. She let him go for a stated period to play with the bad boy over at our neighbor's; but before going he promised her to come back in exactly one hour; and, furthermore, he promised to come home at once unless Edson would stop swearing. He came home repeatedly. Finally Edson called out to him from the street:

“Hello, Ernest! If you will come out and play, I won't swear a bit while you are around.”

For a time Edson would forget; but by and by he played whole hours, and did not swear. Edson is a better boy for having been Ernest's particular playmate, and I don't know but that Ernest is a better boy for having had Edson for a playmate. When he got older, worse things even than blasphemy were brought to his childish ears; but, may the Lord be praised, the close acquaintanceship between himself and his mother, brought about mainly from the fact that his mother had pulled him through these other things, kept him safe from contamination. He told his mother about things he had heard, and his mother fortified and strengthened him against these new evils. He talked with her frankly about things that mothers often feel as if they could not talk about to their grown-up boys.

Dear fathers and mothers, may I suggest a thought to you here? The growth of the vegetable world is a wonderful thing. The germination of seeds is, to every child, intensely attractive. The little downy chickens that come from their shells, in obedience to the instincts and care of the mother bird, are a never-ending wonder and attraction to the little ones of your household. Now, if you can talk with them about these things, and explain to them the wonders of God's creation, as seen in the sprouting of seeds and the bursting of egg-shells, can you not, when these same juveniles are a little older, tell them of the greater wonders that pertain to the matter of human life? God will guide you and give you wisdom and discretion in these matters, if you go to him prayerfully and go to him with your Bibles. Who but a father or mother is so well fitted to explain these things pertaining particularly to this matter of father and mother, and their relationship to the human family? Inasmuch as the Bible does not hesitate to speak of these things plainly, it seems to me that every parent has not only a right, but it is a sacred *duty* before him; and this duty should be taken up whenever the child is able to read God's sacred word understandingly. And, dear friends, is it not possible that this plain, frank way with your children would do much toward preventing them from getting hold of foul language and impure words? Where did those boys whom I overheard in the hotel

learn all this? Surely not from father nor mother.

While speaking about letting children play with neighbor's children, a friend made the remark that evil many times comes from letting the children make too long visits. Let them go for an hour, or half an hour, perhaps, and be sure that they are taught to be prompt and punctual. Be very careful about letting them go away to stay over night. The parents should know exactly when the children retire to rest, and, above all things, the company they are with at such times. Some poor woman may say, in despair, "How can I, with all my cares, keep such unremitting watch as all this demands?" Dear mother, what is the most important commission that God has ever placed upon you? Is there any duty or any task in life that comes any thing near being so important as this one of bringing your children up in such a way that they shall be pure in heart? Those that are pure in heart shall see God. To them is this promise given, and to none others.

## REPORTS DISCOURAGING.

A LOSS OF 18 OUT OF 21 DURING WINTER; WHAT KILLED THEM.

**I**F you really long for some "reports discouraging," I can furnish you with at least one such. If I do not take the "first premium" I shall at least hope my chances for second are very fair in the line of poor success, or, if you please, "awful bad luck," during the past winter. And if you can "help us out of our trouble," as you intimate your ability to do, it will be some compensation for the "doleful story" of my last winter's experience.

I prepared for winter, as early as Nov. 1, 21 colonies, rather stronger than usual. I packed in dry leaves, and covered with carpet two or three thicknesses above, and with sufficient honey, as I thought, said good-by to them for the winter. I did not say farewell for ever, for I thought we should meet again when the "flowers that bloom in spring" should entice them and myself from our winter quarters. But we didn't. Eighteen out of that possible 21 have gone to gather nectar where "everlasting spring abides, and never-withering flowers." At least they have "gone dead," awfully dead, and will never again visit any flowers here. "How did it happen?" you say. Well, I wish you would tell me. That is just what I want to find out. If I can, and you thus help me out of my trouble, perhaps I may be able next winter to save more than one out of seven; that is, if I can hope to increase to so numerous an apiary from my remaining trio of brave survivors. Now don't put me in Blasted Hopes. I am not there at all. I am not even discouraged, for—well, haven't I three colonies left? and I dare say that is three times as many as some poor unfortunates can boast who last fall were beginning to calculate what investments they would make of the profits of this year's honey-crop.

I presume you are inquisitive enough to wish to know what manner of hive to attribute this loss to. Well, I use three kinds of hives—the Chaff Eclectic,

the American, and a nameless hive made by a neighbor by the name of Pierce, and I call it, hence, the Pierce hive. It holds six frames, and is very deep—18 inches by 10. My three surviving colonies were in these hives. I am credulous enough to think that the depth of these hives had something to do with the safety of these lucky little fellows—especially as in past winters my losses have been chiefly in shallow-frame hives—Simplicity, etc.

One other circumstance I ought to mention, and that is, that I had my bees on the north side of a board fence, and facing north. Did that have a necessarily fatal effect? I have wintered that way before. Do you ask why? Simply because I do not own the south side of that fence. If I did I would put them there.

Tell me all about the reasons for my "awful bad luck" the past winter, if you can. J. F. PATTON.

New York, May 4, 1887.

Friend P., while I should hardly think that putting bees on the north side of a fence would be fatal to them, I should call it a rather unfavorable location. While reading your letter I was wondering if there were not some starvation about it. You say you left them with sufficient honey, as you thought, but you don't tell us how much was left when you found them dead. I can not tell you where the failure came in, as you state it; but I do think, that if you put up your bees in chaff, packed as we describe in the A B C book, you can succeed in wintering as well as others do.

## OUR OWN APIARY.

CONDUCTED BY ERNEST R. ROOT.

BEES IN NICE CONDITION.

**O**UR bees are in splendid condition, and I think I never saw more brood in the hives at this time of year than now, although the spring is a little late.

These young bees have come in at just the right time, for we notice that the old bees which withstood the hardships of winter so well are now becoming scarce. So far we have not fed, as we desire to let the bees clean out their combs entirely of all remnants of honey fed from last fall and summer. A little later, if apple-bloom should not furnish us honey enough we will feed.

It is over six weeks since we have had a case of foul brood; and if you could look into the condition of our colonies, and see the clean healthy brood, and the number of young bees, I believe the most skeptical of you would acknowledge that, so far as appearances are concerned, we have fully eradicated the disease.

So confident do we feel that we have cured foul brood, that we have decided to put the two loads of bees from friends Rice and Shook into our home apiary. We now have 240 fair colonies, with brood and young bees in all stages of development. I believe we never had a nicer lot of bees, or as nice-looking queens as now, and we certainly never had brood more healthy-looking. Unless some of our customers object, we will fill



orders for bees and queens from the home apiary. All those of you who may see fit to place with us your orders for bees and queens, we feel sure need not fear trouble from foul brood, as certainly the disease would have made itself manifest ere this had there been any trace of it. Those of our customers who would prefer not to have their orders for bees and queens filled from our own apiary, can have them filled from Neighbor H.'s apiaries by so stating at the time of ordering. I believe it is an axiom among those who have had to do with foul brood, that the disease can not be communicated from bees and queens when shipped in cages.

Remember, we are selling bees by the pound for just half what we sold them for last year. We did not bring the price down because we thought the bees were any less valuable, but because we thought our former price of \$2.00 a pound in the month of July was rather too high for those who were desirous of economizing. A few years ago, when we put the price of bees up, we had been sustaining heavy winter losses, and we felt that we could not therefore furnish bees then at a dollar a pound in July; but for the past four or five years we have wintered bees without any loss to speak of; and with 200 or more good colonies to begin with in the spring, we decided that we could easily return to our old prices—\$1.00 per pound for nice young Italians in July and after, and a corresponding increase during the cooler months of the year. For this month our price is \$1.50; next month, \$1.25 per lb.

#### APIARISTS' HATS.

We have just received a consignment of those nice light summer hats for apiarists, such as was illustrated on page 1001, last year, and described on page 30 of current volume. The covering of said hat is cloth of a light drab color. The brim is held out in position by a light steel hoop. The inside of the crown is so made that it is adjustable, and will fit any head. The lower side of the brim is covered with green cloth. When the hat is on the head, it feels so light and easy that the wearer scarcely knows that he has any covering at all over his pate; and the green color on the under side of the brim has a kindly effect upon the eyes. I have tried quite a number of hats in the apiary, and the one answering the description above is the one I very greatly prefer to all others. I know of no hat that is better adapted for holding the veil away from the face, and I think the apiarist who will give this hat a trial for one season will not wish to go back to the unsightly, uncomfortable, and often ill-shapen straw hat. We can furnish the apiarist's hat folded in a neat package for the small sum of 20 cts. each; 10 for \$1.80; postage, each, 2 cts. extra.

#### JERKING THE HANDS BACK AWAY FROM THE TOP OF THE FRAMES.

The other day, as I was passing through the apiary I noticed one of our new men jerking his hand nervously away from the top of the frames. I surmised that a bee had bumped against his fingers, with the apparent intention of inflicting a sting. When

I reached him I found that I was correct. I told him to try holding his hand perfectly motionless the next time a bee darted forth and bumped against his fingers. It might require some nerve force, but that if he would try holding his hand still and let the bee know that he was not afraid of it, there were ten chances to one that it would not sting him. He did as I told him, and afterward reported that it worked as I had said. I give this little fact, not for the benefit of the veterans, but for beginners and A B C scholars. You will save many a hard sting by holding your hand perfectly still when one or perhaps a dozen bees strike against your fingers. When you notice the tendency on the part of the bees to dart out that way you should give them plenty of smoke over the top of the frames; and as often as they try to scare you, give them a little more smoke.

#### CROSS HYBRIDS.

On the 11th of May we purchased four colonies of a farmer residing some two miles from our place. When the bees arrived I told the boys to take out the frames and place them in our Simplicity hives, as they had done with the forty other colonies purchased of friends Rice and Shook. Not suspecting any trouble, I went into the office and was seated composedly. In about half an hour, father came in and said, "You had better go out and see what the boys are doing. The bees are pretty cross. Find out whether there are any pieces of brood or honey broken and lying around." I went out to the apiary immediately. I made my way directly to the spot where the boys were taking the combs and placing them in the Simplicity hives. As I neared the place Mr. S. called out, "Better put on a veil before you come here." I needed no second caution. Taking a roundabout course I went to the house-apiary and procured a veil. On coming up I found that the bees were indeed, to put it mildly, "awful cross." There were perhaps 200 of the little scamps flying around the heads of all three of us, giving that angry hum such as is heard from all cross hybrids. I found there was nothing particularly wrong, only that the bees had not been handled before for a year or more; that being hauled a couple of miles and then stirred up they were determined to vent their spite right liberally. I told the boys that they had better desist for the present. On looking over toward my house which is in process of building (some 300 feet away) I noticed one of the masons striking wildly in the air as if mosquitoes or some other small insects were disturbing his peace of mind. I began to conclude that those vicious hybrids were not content with buzzing around our heads, but were so considerate as to call upon the masons. I immediately went over and inquired whether the bees were bothering them. They replied that they had killed a dozen or so of them 'ere pesky little pioneers." Not content with bothering the masons they attacked one or two horses on the street, and even entered our saw-room amid the hum of machinery.

Right here, while I am about it, I believe

I have said I didn't care to use a veil. I rarely ever have occasion to resort to their use; but I must confess, that if I had such hybrids as these, and so strong in numbers, I should consider a veil one of the indispensables.

#### OUR HONEY APIARY.

We have definitely located our Honey Apiary some five miles south of Medina, and we expect to do some wonderful things in that apiary this summer. "Me and my wife" drove down there last week and completed arrangements.

## GLEANINGS IN BEE CULTURE.

*Published Semi-Monthly.*

A. I. ROOT,  
EDITOR AND PUBLISHER,  
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, MAY 15, 1887.

He that endureth to the end shall be saved.—MATT. 10:22.

#### T TINS—NUMBER SOLD UP TO DATE.

SINCE the first mention of T tins on page 156, current volume, the foreman of our tin-room informs us that we have so far made 36,000. This makes about 12,000 a month; and the demand, instead of decreasing, seems to be increasing.

#### MR. THOMAS HORN.

As quite a number of the friends have complained that they have not yet received their notes, as promised by Mr. Horn, on page 111, we wrote to him in regard to it, and here is his reply:

FRIEND ROOT—I mailed, as promised, all notes excepting a few retained for further investigation, which I have since mailed; and now to the best of my knowledge all have their notes. If I have overlooked any, if they will kindly inform me I will mail them at once.

THOMAS HORN.

#### FIGHTING THE POTATO-BUGS.

TO-DAY, May 14, our Early Ohio potatoes that were started in the greenhouse are almost knee-high, and are doing splendidly, but the bugs are going for them to such an extent that one of the boys picked 34 off from one stalk. Our potatoes grow as stalks, remember, and not in hills. I have just written to friend Terry to know if I shall keep a boy picking the bugs off, or go back to the old-fashioned way of using Paris green.

#### TOTAL LOSS BY FIRE.

THE following letter from our friend Dr. J. P. H. Brown has just come to hand, which will explain itself:

I have just had the misfortune to-day of having my residence burned, including all my books, letters, and correspondence. I shall be much obliged to you if you will say that I will esteem it a favor if my customers will please send me at once their address, including a repetition of their orders. All orders will receive prompt attention. The loss of the house, including its contents, is fully four thousand dollars, and no insurance. We could not save a thing out of the house, as the wind was blowing a gale.

J. P. H. BROWN.

Augusta, Ga., April 29, 1887.

Friend B., we extend to you our sympathy. We have no doubt, however, that you will be able to meet all your obligations.

#### PROF. BEAL'S NEW BOOK, "THE GRASSES OF NORTH AMERICA."

THIS is perhaps the most thorough and comprehensive work of the kind in the world. It is just from the press, and covers the whole ground most thoroughly, including the entire clover family as well as the grasses. Prof. Beal's clover-garden was one of the most interesting sights to me at the Agricultural College when there some years ago. He had a little plot of all the clovers known in the world; and near by were plants not exactly clovers, but nearly related to them, such as peas, vetches, etc. Among the subjects treated of in the book are Grasses for Cultivation, Grasses for Meadows, Care of Grass Lands, Making Hay, Grass for the Lawn, Garden, and Decoration; Enemies of Grasses and Clovers; the Fungi of Forage Plants, including corn-smut. Weeds in the Meadow is a department that interested me greatly. The price, \$2.50, may be thought by some a little high; but it is a most thorough piece of work by a most able man. There are 457 pages, and the book is fully illustrated, for the most part excellently. We can mail it on receipt of price given above. The author is professor of forestry and botany in the Michigan Agricultural College.

#### CAN BEES BE MADE TO HIBERNATE?

SINCE our article on page 343 was published, in regard to the secret possessed by the Indians, of keeping bees from fall to spring in a dormant state, several communications have been received—one from Mr. C. E. Jones, of Delaware, Ohio. Mr. Jones says that an old missionary assured him that he had buried bees in dry dirt, after causing them to fill themselves with honey, and kept them till spring. Friend Jones himself has experimented with bumble-bees in this way, and thinks that, because he succeeded with the latter, it might be done with honey-bees. Of course, this is a mistake. For years past, different individuals have told about bees that were brimstoned, and buried in the ground, but when dug out in the spring (by accident, of course) they came to life and were as good as ever. Now, while there may be truth in these oft-repeated assertions, I very much doubt it. When these statements are sifted it turns out that somebody else did it besides the narrator. If, however, there is a man who has buried bees in dry dirt, and kept them months, and afterward brought them to life, we shall be glad to know it. And when such an individual shall go to work and demonstrate it before good witnesses, we will then give up that bees can be made to hibernate. Now, don't feel hurt, any of you, dear friends. We are not doubting anybody's word. We are only asking for accurate facts in the matter.

#### HUTCHINSON'S NEW BOOK.

THERE have been some criticisms sent in, in regard to this work. It is true, friend H., in the book, invites the freest criticisms; but some of them are not in as courteous a spirit as they ought to be, to find place in a periodical. On page 233 of the *American Bee Journal*, Prof. Cook quotes me as follows:

"I read Mr. Hutchinson's new book on comb honey, as I came here. It is so good that I have only one criticism—it is too short."

It is true, I did say that, or something very much like it, but I also added, or, at least, intended to add, that I should give it the same criticism I did Dr. C. C. Miller's new book—the absence of engravings to make matters plain. A busy man like myself could



afford to pay double price to have a book well illustrated, as a matter of saving in time, if nothing else. I have been asked how it is I should say the book has but one fault, when there is so little matter (aside from the advertisements) for the price asked. To which I reply, if I did not say it before, that when I said the book was too short I meant it was too short for the price asked. Friend Hutchinson gives Mr. Doolittle credit in two places for having vehemently urged, for years past, this very point of not using foundation in the brood-chamber for new swarms. It has occurred to me that perhaps a little more credit should have been accorded to friend Doolittle; but Mr. Hutchinson has written so briefly that he was compelled to only touch or hint at a good many things.

#### WHOM SHALL WE TRUST ?

ONE of our advertisers sends us a colony of Italian bees by express, and writes as follows:

FRIEND ROOT:—I get many inquiries about my bees that I advertised for sale in GLEANINGS—such inquiries as "Have you foul brood? Are they good Italians? Why do you sell so cheap? Where did you get your queens to breed from? Send me ten swarms, C. O. D.; and if they are all right, I will buy more." Mr. Root, you will see that my bees are all right by the ones I send you. I bought the original queens for golden Italians of Darrow & Ross, and every one is as good as the one I send you, and some better. I can send no bees C. O. D. While it might be all right with some, with others it would be different. I have 40 swarms to sell. No foul brood.

J. R. REED, Milford, Wis.

Friend Reed sends us one of the colonies he sends out, to convince us that his bees are all right; but, my friends, Thomas Horn did the very same thing. All we can say is, that the bees are good fair Italians, and are well worth the price asked for them. I do not believe it is practicable to send bees C. O. D. There are people who would order them, and when the bees got to the express office the customer would not have the money to take them out. There seems to be no other way but to ask for cash in advance, or references from the nearest bank; and I was on the point of saying, that advertisers ought to furnish a reference from the nearest bank. But Thomas Horn did this very thing also; and yet he has damaged trade by the injury he has done, in the way of spoiling confidence in our fellow-men, more than any one can estimate. The only real remedy I can see in this difficult matter is for each one to take pains to establish a reputation for promptness and fair dealing, and it takes months and years to do this. References from your postmaster, banker, or express agent, are always in order, and we require such from every advertiser before his advertisement is inserted. If anybody advertises bees or queens for sale, while he has foul brood in his apiary, he deserves the condemnation all good men, and should be held up before the people at once; but I don't think there are any who would do it. Nothing pleases customers so much as sharp promptness in filling orders. Our large trade in bees and queens has been mainly built up by this one thing alone. We get better prices than many of our advertisers, and people are quite willing to pay better prices, providing they have the assurance that their bees and queens come by return mail or express, without any apology, delays, or evasions.

#### MAKING THINGS PLAIN WHEN WRITING.

OFTENTIMES, in looking over the piles of communications which are written for GLEANINGS, we find it a great temptation to pick out those articles which are written in a clear, plain hand, and on only one side of the sheet. But the articles of our

old correspondents are, of course, picked out first, and handed to the printers. But a writer who carelessly puts down his ideas without much attention to punctuation or capitalizing is often obliged to wait some time before his communication appears in print, if it ever does. Said article, when the thought is dug out and properly clothed, is often one of the valuable communications. Editors can not always write these over when they have access to good articles plainly written and well worded. The reason is, they don't have time to wade through, correct, and readjust the sentences, so that an intelligent reader will not be obliged to pause and re-read to see what the writer is trying to get at. What we want is good plain handwriting, devoid of all flourishes (or "spider-legs," as our proof-reader calls them) or unnecessary "curlicues." These things make the world a good deal of trouble, to say nothing of the vexation for the poor compositors, who often "see their dinners vanishing into illimitable perspective" after wrestling with a "hieroglyphic," when engaged on piecework. The chief difficulty with many writers is, that they do not end a sentence with a round period, and then begin a little further on with a capital letter; but instead they make the last part of one assertion the first of another, and often we can not tell what they mean. This often makes some feeling in advertisements. To show what we mean, please read this sign, which a barber once had in front of his shop. Here is how he wrote it:

What do you think I'll shave you for nothing and give you a drink.

The first customer read it thus:

What do you think? I'll shave you for nothing, and give you a drink.

After being shaved, and asking for the drink, he was disgusted to know that the sign should be read:

What! Do you think I'll shave you for nothing, and give you a drink?

Please tell us, friends, how to read your "sign-boards."

#### CONVENTION NOTICES.

The next meeting of the Darke Co. Union Bee-Keepers' Society will be held at Greenville, O., on Friday, May 27, 1887.

J. A. ROE, Asst. Sec.

The next meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held at Rockton, Ill., May 24, 1887.

D. A. FULLER, Sec.

Cherry Valley, Ill.

#### Williams Evaporator For Sale.

Used but little, good as new. F. O. B. on cars, with parts numbered, for \$300 cash.

10d

W. H. HART, Poughkeepsie, N. Y.

#### CHEAP.

During May and June I will sell nuclei colonies in Simplicity frames at the following prices.

Three frame, with choice tested Italian queen, \$4.00

Two

3.00

These colonies are first class in every respect, and I guarantee safe arrival and satisfaction.

10d F. W. MOATS, The Bend, Defiance Co., O.

#### CHAPMAN HONEY-PLANTS.

We can furnish very nice little plants for 10 cts. If wanted by mail, add two cents each extra for postage and packing. These are good strong plants that came up themselves near our old plants of last season. They will make good strong plants this year, but will probably not bloom until next year.

A. I. ROOT, MEDINA, OHIO.

## ONE-PIECE SECTIONS

### A SPECIALTY.

Sections smooth on both sides, V or nearly square groove, dovetailed ends, or to nail, at \$3.50 per 1000.

8tfid **B. WALKER & CO.,**  
Capac, St. Clair Co., Mich.

### FOR SALE AT

**W. O. WINSOR'S FACTORY,**  
NORWICH, CHENANGO CO., N. Y.,  
**BEE-HIVES, FRAMES, FOUR-  
PIECE SECTIONS, AND  
Packing-Crates.**

Price List Free.

6-8-10-12d

## BE SURE

To send a postal card for our illustrated catalogue of  
**APIARIAN** Before purchasing **SUPPLIES**  
elsewhere. It contains illustrations and descriptions of every thing  
new and desirable in an apiary,

### AT THE LOWEST PRICES.

ITALIAN QUEENS AND BEES.

2 tfid **J. C. SAYLES,**  
Hartford, Washington Co., Wis.

### M. H. HUNT,

Manufacturer of and dealer in every thing needed  
in the apiary.

**BEAUTIFUL SECTIONS, FOUNDATION,  
ALSIKE CLOVER SEED, &C.**

4tfid **Bell Branch, Wayne Co., Mich.**  
Price list free. (Near Detroit)

## PURE \* ITALIAN \* QUEENS

**BRED FROM AN IMPORTED MOTHER,**

Sent by mail; safe arrival guaranteed, from April  
until October. Tested queens, \$1.50; Untested  
queens, \$1.00; per dozen, \$8.00. Satisfaction guar-  
anteed, or money refunded. 9-13db

**Walter McWilliams, Griffin, Ga.**



### PURE ITALIAN Bees and Queens,

Tested Queens	-	-	-	\$2.00
Untested Queens	-	-	-	1.00
Six Untested Queens	-	-	-	5.00

One pound bees, 90 cts; ½ lb., 60 cts.  
Add price of queen with bees. 9d

**T. A. PEW, MIDDLETOWN, MO.**

## BEES FOR SALE.

15 Colonies hybrid bees, \$5.00 per stand, in single-  
story hives; in double-story hives, \$6.00. Address  
910d **L. B. STANGER, Uniontown, Del. Co., Ia.**

The "Gilt Edge" Apiary offers Italian queens  
from imp. mother; untested, in April and May,  
\$1.00; unt'd, in June and after, 75 cts. Tested queens  
double above price. **A. P. STAIR,**  
5-10db **Whitney, St. Clair Co., Ala.**

## ITALIAN QUEENS

### BEE-HIVES AND SUPPLIES.

**ONE PIECE V-GROOVE SECTIONS, BEE-  
FEEDERS, WIRE NAILS, PER-  
FORATED ZINC.**

Scrub Brushes, a friend for the ladies, 65 cents  
each; \$4.00 per dozen. Alsike clover seed, \$7.50 per  
bushel; \$2.00 per peck; 15 cents per pound.

**B. J. MILLER & CO.,**

4-10db

**NAPPANEE, IND.**

**PRIME & GOVE,**  
**BRISTOL, + VERMONT,**  
—MANUFACTURERS OF—

### Bee - Keepers' Supplies.

White Poplar Dovetailed Sections and Shipping  
Crates a Specialty. Price List and Samples free.  
5tfdb.

## HEDDON'S

— 1887 —

## CIRCULAR

**NOW READY.**

**ADDRESS JAMES HEDDON,  
DOWAGIAC, MICH.**

1tfdb

**BEE** KEEPERS' GUIDE, Memoranda, and Illus-  
trated catalogue, for 1887, FREE. Reduced  
prices. Address **JOS. NYSEWANDER, Des Moines, Iowa.**  
3tfdb

## ATTENTION!

**SECTIONS, BEE-HIVES, HONEY-BOXES,  
FRAMES, ETC.**

**LARGEST FACTORY IN THE WORLD.**

Best of goods at lowest prices. Write for free il-  
lustrated Catalogue. **G. B. LEWIS & CO.,**  
1tfdb **Watertown, Wis.**

## HEADQUARTERS IN THE WEST

**FOR THE MANUFACTURE AND SALE OF**

### Bee-Keepers' Supplies.

**CHAFF AND SIMPLICITY HIVES FURNISHED  
AT A GREAT REDUCTION IN PRICE.**

Nice Sections and Foundation, Specialties. A full  
line of Supplies always on hand. Write for our new  
Price List. Cash paid for Beeswax. 22tfdb

**A. F. Stauffer & Co., Sterling, Ill.**

**DADANT'S FOUNDATION FACTORY,** Whole-  
sale and retail. See advertisement in another  
column. 3btfdb



# A LAWN MOWER

FOR ONLY \$5.00.



Isn't it true, that a neatly kept lawn is evidence of an intelligent and progressive spirit possessed by the owner? A lazy and shiftless man seldom has any lawn at all. Many whose occupation keeps them indoors a great part of the day, derive health and enjoyment in taking care of a lawn, even though it be just a little one. And what makes life pleasanter than to see pleasant homes as we happen to pass along our country roads or village streets? Where you see a handsome lawn outside, you will almost always find the magazines and progressive journals of the day inside. One impediment in the way of these handsome lawns is the expense of a lawn-mower; and as we have spent some time in looking the matter up, and trying the different kinds, especially those adapted to mowing around bee-hives, I herewith give the result of it.

The one pictured seems to please us best of all for working in the apiary; and another thing that pleases me is that it costs for the 10 inch, only \$5.00; 12 inch, the standard size, \$5.50, and the 14 inch, \$6.00. The 10-inch one runs a little easier, of course, and it may therefore be preferable for a lady or for a child. Its simplicity is an advantage in the apiary, for it will run up close to the entrances, and it will cut weeds and grass of a considerable height without difficulty. We can furnish them promptly at the prices named. As the machine weighs but 50 lbs., it will probably go cheaper by freight.

A. I. ROOT, MEDINA, OHIO.

## HOW TO RAISE COMB HONEY.

Price 5c. You need this pamphlet, and my free bee and supply circular. 18tfdb  
OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

## THE CANADIAN BEE JOURNAL.

WEEKLY, \$1.00 PER YEAR.

JONES, McPHERSON & CO., Publishers, Beeton, Ontario, Canada.

The only bee journal printed in Canada, and containing much valuable and interesting matter each week from the pens of leading Canadian and United States bee-keepers. Sample copy sent free on receipt of address. Printed on nice toned paper, and in a nice shape for binding, making in one year a volume of 832 pages. 9tfb

## ON 30 DAYS' TRIAL.



### THIS NEW ELASTIC TRUSS

Has a Pad different from all others. Is cup shape, with Self-adjusting Ball in center, adapts itself to all positions of the body while the ball in the cup presses back the intestines just as a person's hand is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail, Circulars free. EGGLESTON TRUSS CO., Chicago, Ill.

1-12db

## Fine Premium Italian Bees.

My queens and bees were awarded first premium at the late Chenango Co. Fair. All interested, send stamps for sample of bees, also for my new price list and circular to suit the times, and method of rearing fine queens. Untested queens, \$1.00 through the season. Tested, \$1.50. Mrs. OLIVER COLE, 6tfdb Sherburne, Chenango Co., N. Y.

## QUEENS.

Untested Italians from choice mother, from May 15, \$1.00 each. 9tfdb  
DAVID STRANG,  
Lincoln, Lincoln Co., Tenn.

## ITALIAN QUEENS. WARRANTED TO

Give Satisfaction. TESTED, \$2.00; UNTESTED, \$1.00, after May 15, 1887. 8d  
H. W. TURNER, Medina, Ohio.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

## \$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

C. F. Uhl, Millersburg, Holmes Co., Ohio.  
Martin & Macy, N. Manchester, Wabash Co., Ind.

## RUBBER STAMPS

DATING, ADDRESSING, BUSINESS, LETTER HEADS, ETC.



No. 1.



No. 3.



No. 2.

self and all who do business with you a "world of trouble." I know, you see.

We have those suitable for druggists, grocery-men, hardware dealers, dentists, etc. Send for circular. A. I. ROOT, Medina, O.

Address only, like No. 1, \$1.50; with business card, like No. 2, \$2.00; with movable months and figures for dating, like No. 3, \$3.00. Full outfit included—pads, ink, box, etc. Sent by mail postpaid. Without ink and pads 50 cts. less.

Put your stamp on every card, letter, paper, book, or anything else that you may send out by mail or express and you will save your

## Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 5 lines, and you must say you want your ad. in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. Of course, this department is intended only for bona-fide exchanges.

**WANTED.**—To exchange for good horses and mules, 200 colonies of bees in Simplicity frames; also 40 acres of land adjoining the city.  
20tfdb ANTHONY OPP, Helena, Phillips Co., Ark.

**EGGS** for hatching.—Wyandottes, Polands, Hamburgs, and Leghorns, in exchange for section boxes, or foundation. Circulars free.  
4tfdb. A. H. DUFF, Creighton, Ohio.

**WANTED.**—To exchange Barnes foot-power saws and bees, for steam-engine, honey, or beeswax.  
7-12db C. W. & A. H. K. BLOOD, So. Quincy, Mass.

**WANTED.**—To exchange eggs from Bronze Turkeys, Pekin Ducks and Langshan Chickens, for Italian queens, or offers. Our stock is first-class.  
E. W. PITZER, Hillsdale, Iowa. 9-10d

**OFFERED**, dry goods in exchange for bee-keepers' supplies, pure breed pigeons, fowls, pheasants, or their eggs. Please state wants, and what you have to offer, with prices. Samples on application.  
WALTER SHERMAN, Newport, R. I. 10d

**WANTED.**—To exchange 15 Simplicity hives (2-story) half comb and half foundation, all in good condition. Make us an offer.  
10-11d J. D. HALSTED, Rye, N. Y.

**WANTED.**—To exchange a dulcimer for two 3-frame Italian nuclei. Write for particulars.  
10d M. GUMBERT, Ohl, Jefferson Co., Pa.

**WANTED.**—To exchange for brevier or long-primer body-type, job type, etc., or for newspaper press, a \$100 photo outfit and 5 tubes.  
10d W. A. KALER, Andersonville, Ind.

**WANTED.**—To exchange, Winchester single-shot rifle, cal. 45.75, warranted in every respect, almost new, for any useful article. If desired, I will forward this rifle to you for inspection.  
10d ROBERT GEDYE, La Salle, Ill.

**WANTED.**—To exchange a trio of fine Wyandottes or Light Brahmas, one year old, bred from my prize strains, for a good buffalo-robe. Must be a No. 1, as fowls are select.  
10d CHAS. MCCLAVE, New London, O.

**WYANDOTTE** and Houdan eggs or birds in exchange for bee supplies; see adv't in another column. JAMES EVANS, Box 89, Schaghticoke, N. Y.  
10tfdb

**FOR SALE.**—A complete apiary of 140 colonies of fine premium bees in a never-failing locality. A bargain, if called for soon. My bees and queens were awarded first premium at the late St. Louis Fair. St. Louis, Mo. Address at once,  
L. WERNER, Edwardsville, Ill. 4tfdb

**For Sale.** 100 colonies of Italian bees. From \$5.00 to \$8.00 per colony. Tested queens, in May, \$2.00; after June 1, \$1.50. Untested queens, in May, \$1.00; six, \$5.00; after June 1, 75c.; six, \$4.00. Also bees by the pound; 2 and 3 frame nuclei; hives, sections, fdn., etc. Circular free.  
5-16db Address JNO. NEBEL & SON, High Hill, Mo.

**500 LBS. FOUNDATION**, 35 Cts. per pound; 5 to 7 feet to the pound. First orders first served. Sample free.  
10-11d S. & A. M. SMITH, Mattoon, Illinois.

**DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL.** See advertisement in another column. 3btfdb

## Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

**FOR SALE.**—Five mismated Italian queens to spare, at 50 cts. each, reared from pure Italian mothers. Write soon if you want them.  
CHAS. MCCLAVE, New London, O.

**FOR SALE.**—About 10 hybrid queens, at 40c. each, by return mail.  
G. D. BLACK,  
Brandon, Buchanan Co., Ia.

I have 3 mismated Italian queens, of this year's rearing, for sale at 35c. each, or the 3 for \$1.00.  
A. P. STAIR, Whitney, St. Clair Co., Ala.

I have about 12 black queens to spare—one and two years old; prolific layers; 25 cts. each; or 5 to one address, \$1.00. LUTHER PURDY,  
Killbuck, Holmes Co., O.

**SEE HERE!**—60 black and hybrid queens for sale; are good laying queens, nearly all young, and are sold to make room for Italians. Ready now. Satisfaction and safe arrival guaranteed. Return all dead queens in same cage; all clipped. Price 30 and 45 cts.  
L. T. AYERS,  
Box 657, Kankakee, Kankakee Co., Ill.

I have five black and 10 hybrid queens that I will sell for 20 and 30 cts. respectively, or the whole lot for \$3.00, ready by May 20.  
W. H. LAWS,  
Lavaca, Sebastian Co., Ark.

Hybrid queens, reared from select tested Italian mother, for sale at 50 cts. each. Safe arrival and satisfaction guaranteed. GEO. W. BECKHAM,  
8-9 10d Pleasant Hill, Lancaster Co., S. C.

Black and hybrid queens at your own price. First come, first served. D. M. KENZIE,  
Camp Parapet, Jefferson Parish, La.

## HARRINGTON'S AD.

I have a fine lot of tested queens; will sell them in the month of May at July prices:

SELECT TESTED	- - - - -	\$3.00
TESTED	- - - - -	2.00
UNTESTED, After May 20	- - - - -	1.00

Holy Land and Albino same price. If you wish something fine give me a call. I never had a case of foul brood. My two apiaries are located 3½ north and 2 miles south respectively in a bee-line from the Home of the Honey-Bees. tfdb

H. B. HARRINGTON, Medina, Ohio.

## Pure Italian BEES For Sale.

30 COLONIES, AT \$5.00, \$6.00, AND \$7.00 PER COLONY,

In Langstroth frames and latest improved hives, for section boxes or extracted honey.

JAMES CRAIG, - Mt. Meridian, - VIRGINIA.  
8tfdb

## PURE ITALIAN BEES FOR SALE.

Two-frame nuclei, \$3.00; 3-frame, \$3.50. If larger nuclei are wanted, add 50 cts. for each additional frame. Full colony in A. I. Root's Simp. hive, \$6.00, each to contain a tested queen and plenty of bees and brood, all on wired L frames drawn from fdn. To be shipped in May; safe arrival guaranteed. I shall do by all as I would be done by. Address  
7-10db. N. A. KNAPP, Rochester, Lorain Co., O.



## W. Z. HUTCHINSON,

ROGERSVILLE, GENESEE CO., MICH.,

HAS the permission of the writer to publish the following:

Forest City, Iowa, March 28, 1887.

W. Z. Hutchinson, Rogersville, Mich.—Dear Sir and Friend:—I am in receipt of your pamphlet—"The Production of Comb Honey." It is the neatest little thing I have seen lately. As a work of art it is as near perfection as printers in 'country' offices usually attain to. I venture the opinion that that cover was the work of a bee-keeper, or at least originated in his (your) creative brain. Nobody but a bee-keeper would have thought of such a unique and appropriate covering. The subject is treated in a very readable and creditable manner. I have been practicing substantially the same method, except the non-use of foundation. I shall try that this season. Respectfully yours, EUGENE SECOR.

Reader, if you wish to enjoy the same pleasure as did Mr. Secor, send 25 cts., and a copy of the book will be sent postpaid. 10tfdb.

## LOOK HERE!

Dollar queens ready to ship; 500 lbs. of bees; 1000 lbs. comb foundation, and a large stock of supplies. Will be sold at rock-bottom prices. Send for our price list of 1887, now out.

SMITH & JACKSON,  
P. O. Box 72. Tilbury Center, Kent Co.,  
10d Ont., Can.

## A Cheap Smoker.

MARTINSVILLE, O., Apr. 11, 1887.

Messrs. Bingham & Hetherington, Abronia, Mich.:

Enclosed find \$2.50 for two large 2½-inch Bingham smokers (wide shield). They are for my neighbors. I have one of the Bingham smokers that I have used for six years, and it is as good as ever. Send for half-dozen rates.

Respectfully, AMOS R. GARNER.

### PRICES OF BINGHAM SMOKERS.

	By Mail, Postpaid.
Doctor Smoker (wide shield).....	3½ inch \$2 00
Conqueror Smoker (wide shield).....	3 " 1 75
Large Smoker (wide shield).....	2½ " 1 50
Extra Smoker (wide shield).....	2 " 1 25
Plain Smoker.....	2 " 1 00
Little Wonder Smoker.....	1½ " 65
B. & H. Honey-Knife.....	2 " 1 15

TO SELL AGAIN, apply for dozen or half-dozen rates. Address T. F. BINGHAM, or

BINGHAM & HETHERINGTON,  
Abronia, Mich.

9-12db

## WANTED TO SELL.

100 3-frame nucleus colonies of hybrid bees, with queens, each.....\$2 50  
Two-story Simplicity hives (complete) each.....1 50  
Chaff hives (have been used some) each.....3 00  
Highly bred hybrid queens, each.....1 00  
4¼x4¼ sections (V groove) per M.....5 00

The photo of my apiary given as a premium on supplies purchased to the amount of \$5.00, cash orders. Will exchange nuclei colonies or ext'd honey for apianary supplies, if new.

7tfdb J. M. YOUNG, Rock Bluffs, Nebraska.

## NEW YORK, NEW JERSEY, MASS., \* BEE-KEEPERS \* CONN.

—SEND FOR MY NEW PRICE LIST.—

E. R. NEWCOMB, Pleasant Valley, Dutchess Co., N. Y.  
4tfdb

WILL SELL tested queens at \$1.25 each; untested at 75 cts. each. Nuclei and full colonies for sale, either Italians or Syrians.

8tfdb ISRAEL GOOD, Sparta, Tenn.

## Green Wire Cloth, FOR Window Screens and Shipping Bees, AT GREATLY REDUCED PRICES.

The following lot of wire cloth is a job lot of remnants, and full rolls direct from the factory, that are **FIRST QUALITY**, and the pieces are of such variety of size as to furnish any thing you want. Price 1½ cts. per sq. foot, for full pieces. If we have to cut the size you want, 2 cts. per sq. ft.

When you order a piece, and somebody else has got it ahead of you, we will substitute a piece the nearest in size to the one ordered, unless you specify in your order that you do not want us to substitute. The figures on the left indicate the width.

- 8 13 rolls, 67 sq. ft. each: 1 each of 66, 65, 64, 63, 62, 61, 60, 59, 58, 57, 56, 55, 54, 53, 52, 51, 50, 49, 48, 47, 46, 45, 44, 43, 42, 41, 40, 39, 38, 37, 36, 35, 34, 33, 32, 31, 30, 29, 28, 27, 26, 25, 24, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1.
- 12 34 rolls of 100 sq. ft. each; 3 of 102 sq. ft.; 4 of 98, 2 of 97, and 1 each of 96, 92, 44, 43, and 28 sq. ft.
- 14 1 roll each of 26, 14, and 5 sq. ft.
- 16 10 rolls of 133 sq. ft.; and 1 each of 132, 131, 131, 128, 128, 106, 55, and 12 sq. ft.
- 18 4 rolls of 150 sq. ft.; 6 of 147 sq. ft.; and 1 each of 153, 148, 145, 143, 141, 130, 117, 69, 45, 37, 24, and 24 sq. ft.
- 22 1 roll each of 73, 73, 55, 46, and 16 sq. ft.
- 24 36 rolls of 200 sq. ft. each, and 1 each of 92, 90, 66, 52, 50, 50, 50, 44, 36, 32, 30, 30, 24, 20, 20, 20, 12, 12, 8, 8, 6, and 6 sq. ft.
- 26 109 rolls of 216 sq. ft. each, and 1 each of 227, 215, 204, 199, 195, and 7 sq. ft.
- 28 66 rolls of 233; 10 of 224; 1 of 222 and 1 of 257 sq. ft.
- 30 15 rolls of 250 sq. ft., and 1 each of 11, 10, and 7 sq. ft.
- 32 8 rolls of 266, 2 of 256 sq. ft., and one each of 275, 99, 96, 84, 80, 13, and 8 sq. ft.
- 34 25 rolls of 283 sq. ft., and 1 each of 142, 142, 133, 130, 74, 54, 17, and 14 sq. ft.
- 36 13 rolls of 300 sq. ft., and 1 each of 288, 147, 120, 45, 36, 36, 34, 33, and 9 sq. ft.
- 38 24 rolls of 316 sq. ft., and 1 each of 633, 300, 47, and 9 sq. ft.
- 42 1 roll of 17 sq. ft.

A. I. ROOT, Medina, O.

INDIANA.—Headquarters for pure ITALIAN QUEENS. At prices that will surprise you. Write us for catalogue and full particulars.

MARTIN & MACY, North Manchester, Ind.

Eggs from high-class poultry for sale.

## BEE-KEEPERS' SUPPLIES

Near your home in Western Pennsylvania and in the oil-producing district of Butler Co.

SIMPLICITY, PORTICO, AND THREE STYLES OF CHAFF HIVES.

Send for price list, if it is to your interest to deal with me.

C. P. BISH,  
78910-11-13d St. Joe Station, Butler Co., Pa.

## BEES! 300 COLONIES ITALIANS.

Ready for spring delivery at 60c to \$1.00 per lb., according to time. Choice queens and brood cheaper in proportion. Also ADJUSTABLE HONEY-CASE, hives, and supplies. Circular free. 6tfdb

OLIVER FOSTER, Mt. Vernon, Linn Co., Ia.

## CHEAP! ITALIAN QUEENS, COLONIES, BEES BY THE LB., NUCLEI, AND COMB FOUNDATION.

Send for Circular.

7tfdb

JAS. McNEILL,  
Hudson, N. Y.

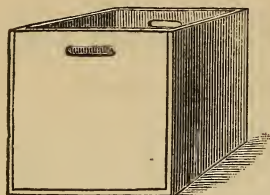
## ESTABLISHED 1855. BEESWAX HEADQUARTERS.

We have constantly on hand a large stock of Domestic and Imported Beeswax in original shape, which we offer to manufacturers of Comb Foundation at lowest prices. We guarantee all our beeswax absolutely pure. Write to us for prices. Address

R. ECKERMANN & WILL,  
Beeswax Bleachers & Refiners, 4-12b STRACUSE, N. Y.

## POTATO BOXES

(TERRY'S).



These are made of basswood, bound with galvanized iron. The galvanized iron gives strength, and the basswood strength and lightness. These hold exactly a bushel when level full, and may be piled one on top of another. Although they are made especially for potatoes, they can be used for fruit, vegetables, picking up stones on the farm, and a thousand other purposes. When piled one above the other, they protect the contents from the sun and rain; and from their shape a great many more bushels can be set into a wagon than where baskets are used. They are also much more substantial than baskets.

Price 25 c each; 10, \$2.25; 100, \$20.00. In the flat, including nails and galvanized iron, \$1.75 for 10; 100, \$16.50; 1000, \$150.

**A. I. ROOT, Medina, O.**

## There is Some Fun

And much sense in our beautiful chromo card described on pages 83 and 112. Sense to tell people in a neat way what you have to sell; and fun to take in the money. Look it up, or address

4tfd **J. H. MARTIN, Hartford, N. Y.**

FOR PRICES OF

**Berry-Baskets and Crates, Send to**

**MELLINGER, HARROLD & GROVE, Columbiana, O.**

SEND FOR SAMPLE BASKET FREE.

We also sell baskets in flat.

7-10db

## PASTEBOARD BOXES

FOR ONE-POUND SECTIONS OF

## COMB HONEY.



This box has a bit of "red tape" attached to it to carry it by. It makes a safe package for a single section of honey for the consumer to carry, or it can be packed in a trunk, if he wants. It can be opened in an instant. The price of the box is 2 cts. each, set up; in the flat, 15 cts. for

10; package of 25, 30 cts.; \$1.00 per 100; or \$9.00 per 1000; 10,000, \$80. If wanted by mail, add \$1.00 per hundred for postage. Colored lithograph labels for putting on the sides, two kinds, one for each side, \$3.00 per 1000. A package of 25, labeled on both sides, as above, 50 cts. By mail, 30 cts. more. They can be sold, labeled on one side or both sides, of course. We have only one size in stock, for Simplicity sections. Sample by mail, with a label on each side, 5 cts. If you want them shipped in the flat, labels already pasted on, the price will be ten cents per hundred for putting them on.

Your name and address, and the kind of honey, may be printed on these labels, the same as other labels. The charge for so doing will be 30 cts. per 100; 250, 50 cts.; 500, 75 cts.; 1000, \$1.00.

**A. I. ROOT, Medina, Ohio.**

## JOB LOT OF POULTRY-NETTING.

*Small Pieces at same Rate as full Rolls — 1 ct. per Square Foot.*

Two or more pieces, 5 per cent off; ten or more, 10 per cent discount.

You will notice in this lot some with heavier wire than No. 19, and some with smaller mesh than two-inch. Both of these are worth more at regular prices than two-inch No. 19; but as it is a job lot we put it all in at the same price.

Inches wide.	Inch mesh.	No. of Wire.
6	2	18 10.
12	2	19 91, 85, 50, 41, 40, 25, 25, 10.
12	2	18 70, 15, 13, 13, 1½ mesh, No. 17 wire, 24.
18	2	19 150, 130.
24	1½	20 120, 120.
24	1½	19 220, 64, 28, No. 18, 200, 1½-inch mesh, 62.
24	2	19 200, 170, 140, 130, 100, 100, 88, 82, 64, 64, 56, 50, 50, 40, 32.
24	2	18 226, 224, 58, 58, 56.
30	1½	19 41, 32, No. 18 wire, 90, 40, 30.
30	1½	19 75, 55, 17.
30	2	19 250, 237, 167, 125, 125, 122, 45, 40.
30	2	18 150.
36	1½	19 144, 114, 75 No. 20 wire, 348, 312.
36	1½	18 108, 39.
36	1½	19 27 No. 18 wire.
36	2	19 345, 330, 270, 255, 246, 240, 204, 204, 198, 195, 132, 126, 75, 75, 60, 57, 33.
36	2	18 360, 114, 72, 51.
42	2	19 350, No. 18 wire, 203 No. 18, 1½ mesh, 189.
48	1½	20 40.
48	2	19 264, 200, 68.
48	2	18 172, 60.
54	2	19 450, No. 18 wire, 324.
60	2	19 595, 490, 445, 385, 335, 330, 325, 285, 280, 240, 225, 220, 210, 180, 165, 150, 140, 130, 80, 50.
60	2	18 410, 335, 320 No. 17 wire, 195.
72	1½	19 438, 312, No. 18 wire, 228.
72	2	19 750, 720, 690, 672, 636, 618, 558, 510, 438, 438, 420, 270, 252, 252, 222, 192, 168, 168, 162, 162, 156, 156, 156, 126, 120, 66, 48.

We know of nothing nicer or better for a trellis for creeping vines than the above netting. The 12 to 24 inch is just the thing to train up green peas, fastening the netting to stakes by means of staples. If the stakes are set in substantially, one each 12 or 15 feet will answer. When the peas are stripped off the stakes, netting and all can be rolled up and laid away until another season.

A. I. ROOT, MEDINA, O.

**DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL.**  
See advertisement in another column. 3tfd

SYRIAN ITALIAN AND ALBINO

## BEEES AND QUEENS

One lb. bees, 1 frame of brood, and untested queen, \$2.25; 1 untested queen, 75 cts.; 2 untested queens, \$1.25; tested, \$1.50; hybrid queen, 25 cents; bees by the pound, 50 and 75 cts.; frames of brood same. Write for any thing not mentioned.

9-10-11-12d **N. E. COTTRELL, Fayette, O.**

## HOW TO WINTER BEES.

Eleven essays by eleven prominent bee-keepers, sent to all who apply. Address  
6tfd **HENRY ALLEY, Wenham, Mass.**

## MUTH'S HONEY-EXTRACTOR, SQUARE GLASS HONEY-JARS.

**TIN BUCKETS, BEE-HIVES,**

**HONEY-SECTIONS, &c., &c.**

**PERFECTION COLD-BLAST SMOKERS.**

Apply to **CHAS. F. MUTH & SON,**

**CINCINNATI, O.**

P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers." 1tfd



## Books for Bee-Keepers and Others.

Any of these books on which postage is not given will be forwarded by mail, *postpaid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them for sale, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a \*; those I especially approve, \*\*; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §.

## BOOKS ESPECIALLY FOR BEE-KEEPERS.

As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very well, by the amount required for postage on each Postage.] [Price without postage.

12	A B C of Bee Culture**	Paper	88
15	A B C of Bee Culture**	Cloth	1 10
5	A Year Among the Bees, by C. C. Miller**		70
14	Bees and Bee-keeping, by Frank Cheshire, England**		2 36
10	Cook's New Manual**	Cloth	1 15
2	Dzierzon Theory**		10
1	Foul Brood: Its management and cure; D. A. Jones**		09
1	Honey as Food and Medicine		5
10	Langstroth on the Hive and Honey-Bee**		1 90
10	Quinby's New Bee-Keeping**		1 90
10	Queen-Rearing, by H. Alley*		40
4	Success in Bee Culture, by James Heddon*		46
	The Production of Comb Honey, by W. Z. Hutchinson**		25
10	Fuller's Grape Culturist**		1 40
	The Apiary; or, Bees, Bee-Hives, and Bee Culture, by Geo. Neighbour & Sons, England§		1 75
	British Bee-Keeper's Guide - Book, by Thos. Wm. Cowan, Esq., England*§		40

## BIBLES, HYMN-BOOKS, AND OTHER GOOD BOOKS.

8	Bible, good print, neatly bound		25
10	Bunyan's Pilgrim's Progress**		50
3	"Dose of Truth," for tobacco users		20
	Ester Ried**		1 25
32	Fables and Allegories. The most beautiful piece of work in the way of a book that I have ever sold, and I do not know but it is the handsomest book I ever saw. It is a large-sized book of 512 pages, full of engravings of surpassing beauty. The paper and printing are probably equal to anything in the way of a book now in the market. Our readers may ask, "What are the fables and allegories about?" Well, they are about you and me. As an illustration, in the center of the book you will find the fable of the Lantern people, which I gave on p. 345, May 15, 1885. I copied the story, but I did not have the wonderful pictures that the author has in this book. The book is written by the author of the Story of the Bible. There is but one fault to find with it; that is, it costs \$2.00. However, if any of you want a book worth \$2.00, every cent of it, you will find it in this book of fables and allegories. It will make you cry, if you don't look out; and the best of it is, that the chances are very great that you will be better after you have cried. I never saw any thing in my life, nicer for a Christmas present, or if you want a beautiful book to put on the center-table of your best room, you can not find a handsomer one for the money. Perhaps I am saying a good deal; but if you do not agree with me after you have seen the book, you can send it back and have your money returned. They are so large and heavy that the postage on them is 32 c. extra. We can sell two books for \$1.75 each; three for \$1.65 each; five or more, \$1.60 each.		

6] First Steps for Little Feet. By the author of the Story of the Bible. A better book for young children can not be found in the whole round of literature, and at the same time there can hardly be found a more attractive book. Beautifully bound, and fully illustrated. Price 50c. Two copies will be sold for 75 cents. Postage six cents.

5	Harmony of the Gospels		35
3	John Ploughman's Talks and Pictures, by Rev. C. H. Spurgeon*		10
2	Moody and Sankey's Gospel Hymns, words only, No. I. or No. IV., paper		05
3	Same, board		10
5	Same, words and music, board		30
5	Same, Nos. I., II., III., and IV., combined, words only, board		20
10	Same, words and music, board		75
3	New Testament in pretty flexible covers		05
5	New Testament, new version, paper cover		10
5	Robinson Crusoe, paper cover		20
15	Story of the Bible**		1 00
	A large book of 700 pages, and 374 illustrations. Will be read by almost every child.		

4	The Christian's Secret of a Happy Life**		25
	"The Life of Trust," by Geo. Muller**		1 15
	Ten Nights in a Bar Room, by T. S. Arthur*		08

## MISCELLANEOUS HAND-BOOKS.

5	A B C of Carp Culture, Peirce**		35
3	A B C of Potato Culture, Terry**		35
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	Barn Plans and Out-Buildings*		1 50
	Bommer's Method of Making Manures†		25
	Canary Birds; paper, 50c; cloth*		75
	Cranberry Culture, White's		1 25
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	Draining for Profit and Health, Warrin		1 50
5	Eclectic Manual of Phonography; Pitman's System; cloth		70
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7	Farm, Gardening, and Seed-Growing, by Francis Brill**		90
	Fuller's Practical Forestry		1 50
10	Gardening For Pleasure, Henderson*		1 40
10	Gardening For Profit**		1 40
10	Garden and Farm Topics, Henderson**		1 00
8	Gardening for Young and Old, Harris**		90
	Gray's School and Field Book of Botany		2 10
5	Gregory on Cabbages; paper*		25
5	Gregory on Squashes; paper*		25
5	Gregory on Onions; paper*		25
10	Household Conveniences		1 40
20	How the Farm Pays, by Peter Henderson and William Crozier. A book of 400 pages, full of pictures of all the late improvements in plants, stock, and machinery, and, in fact, every thing pertaining to the farm. Price \$2.50. By buying them in large lots I am enabled to furnish them to subscribers to GLEANINGS for \$1.75. If wanted by mail, 20 cts. extra for postage. To any one who will send \$2.50, we will send the book and GLEANINGS one year postpaid**		
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	Hints for Painters, Paper-Hangers, &c*		25
2	Injurious Insects, Cook		25
	Irrigation for the Farm, Garden, and Orchard, Stewart*		1 50
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10	Money in The Garden, Quinn*		1 40
	Peach Culture, Fulton*		1 50
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10	Profits in Poultry**		90
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	Practical Poultry-Keeper, Wright*		2 00
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2	Silk and the Silkworm		10
10	Small-Fruit Culturist, Fuller*		1 40
3	Strawberry Culturist, Fuller*		15
2	Treatise on the Horse and his Diseases		10
	The Carpenter's Steel Square and its Uses; Hodgson; Abridged		15
10	The New Agriculture, or the Waters Led Captive		1 40
3	Winter Care of Horses and Cattle, Terry**		40
3	Wood's Common Objects of the Microscope**		47
	Youman's Household Science*		1 75

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	American Fruit-Culturist, Thomas		3 00
	American Weeds and Useful Plants		1 75
	Burn's Architectural Drawing-Book		1 00
	Broom Corn and Brooms; paper; 50c; cloth		75
	Cements and Glue		25
	Fruits and Fruit-Trees of America, Downing		5 00
	Harris on The Pig		1 50
	Insects Injurious to Vegetation; Plain, \$4 00; with Colored Plates		6 50
	Manual of Botany and Lessons, Gray		3 00
	My Vineyard at Lakeview		1 25
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	Pear Culture For Profit, Quinn		1 00
	What to Do and How to Do it, in case of Accident, &c.		50
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Address your orders to

A. I. ROOT, Medina, Ohio.

## The Weekly

## British Bee Journal.

The British Bee Journal is now mailed to our address in packages, weekly. In order to dispose of them, we offer them at present at \$2.62 per year, postage paid, beginning January, 1887. Will guarantee safe arrival of every number.

A. I. ROOT, Medina, Ohio.

GLEANINGS IN BEE CULTURE.

# APIARIAN SUPPLIES

MANUFACTURED BY

W. T. FALCONER, - JAMESTOWN, N. Y.,

Are unsurpassed for **QUALITY** and fine **WORKMANSHIP**. A specialty made of all styles of the **SIMPLICITY HIVE**. The "**FALCON**" **CHAFF HIVE** with Movable Upper Story Continues to Receive the Highest Recommendations as Regards its Superior Advantages for Wintering and Handling Bees at all Seasons. Also manufacturer of

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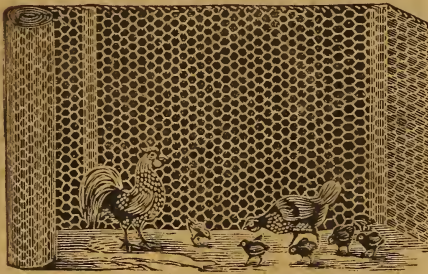
Will pay highest price offered in GLEANINGS from month to month for *Beeswar* delivered at depot here.

**DEALER IN A FULL LINE OF BEE-KEEPERS' SUPPLIES.**

1-24db

SEND FOR ILLUSTRATED CATALOGUE FOR 1887 FREE.

## GALVANIZED WIRE NETTING, FOR POULTRY INCLOSURES, ETC.



This wire netting comes in rolls 150 feet in length and 4 feet in width. This would give 600 sq. ft. of surface, and we are enabled to furnish it at the low price of one cent per sq. foot, or \$6.00 for a roll. Staples for fastening to the posts are 20 cts. per lb., and 1 lb. contains about 400 staples. About 1 lb. of these is needed for a roll of netting. The posts to hold it should be not more than 10 ft. apart, and it should be set in the ground at least 2 ft. You can put on a top rail, if you choose, but the selvage edge of the netting makes a pretty strong fence; and as the fowls can not see it they can not tell how high to fly; and after being bumped down several times they usually give it up. In putting it on the posts, draw the top of the selvage tight, and afterward draw the bottom down and fasten that. You can put a board a foot wide along the bottom, if you choose. This will prevent small chickens from getting through, and makes the fence one foot higher.

One advantage this netting has over wooden pickets is, that it does not catch the wind as they do, and therefore the posts are not so liable to be tipped over; besides it presents a very much more

ornamental appearance, as you will see by the cut. The meshes are two inches across; and where the wire crosses it is securely soldered together, for the whole fabric is immersed in melted zinc after the whole is woven together. The size of wire used is No. 19. This galvanized wire never rusts, so it will last a lifetime, unless it is damaged by careless running into it. If you want to make division fences, so as to keep different breeds from the same yard, it is better to have a board at the bottom at least one foot wide, so the fowls can not be gossiping through the wire, and pecking at one another. You will notice that one roll makes a yard nearly 40 feet square, and this is plenty large enough for 20 or 30 fowls.

Another advantage this netting has over wooden pickets is, that you can see what is going on inside so readily. The wind, also, has free access, which is quite an item during sultry weather. It should be shipped by freight. The weight of a single bale is about 50 lbs. It may be shipped from here or from New York or Chicago, as may be convenient.

If you want us to cut rolls, the price will be  $\frac{1}{2}$  c. a foot extra. On two or more rolls, we can give 5 per cent discount; on ten or more rolls, a discount of 10 per cent. As the above prices are very close indeed, they can be given only when cash comes with order. This wire netting can be used in a hundred different ways for protecting anything. It makes very pretty and efficient trellises for running vines. As it is galvanized wire, the weather has no effect on it whatever.

P. S.—We keep in stock only the one width mentioned above; viz., 4 feet high, although you can have it made to order from 2 to 6 feet. The 2-foot width is just right for ducks, rabbits, etc. The price will be the same; viz., one cent per square foot. All other widths come in bales 150 feet in length. Where less than a whole bale is sold, the price will be  $1\frac{1}{2}$  cents per square foot. If wanted by mail, add 2 cts. per ft.; or 15 cts. postage for 10 ft. Prices for smaller mesh, or mesh made of heavier iron, on application.

A. I. ROOT, Medina, Ohio.

## Pure MAPLE SUGAR.

We have some six or seven tons of the nicest **MAPLE SUGAR** we ever handled, bought direct from farmers around Medina. We **GUARANTEE** this sugar **ABSOLUTELY PURE MAPLE**, and of very fine quality. We make four grades, according to color and quality, at 7, 8, 9, and 10c per lb. In 50 lb. lots, 1-2c less; per bbl. of about 280 lbs., 1c per lb. less. For more than one bbl. write us for prices.

A. I. ROOT, Medina, Ohio.